BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, NOVEMBER 17th, 1934

SOME ASPECTS OF PAIN*

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The various biochemical and metabolic changes that have at times been regarded as the effects of pain are of very limited value. Inconstant, unreliable, and non-specific, they tell us little as to the nature, intensity, and site of the pain, or even, indeed, as to its very existence. Many of these data have been determined by animal experimentation, and are entirely inapplicable to the study of pain as a process of human mentation. Some of the changes occur whether anaesthesia is employed or not, and cannot therefore be directly linked with the conscious appreciation of pain. The all-important factor of the concomitant feeling-tone is entirely ignored, and we do not know what part is played by the coexisting fear, anger, depression, and exasperation. When the physiologist discusses the "bodily changes in pain, hunger, fear, and rage" we are persuaded to regard them as identical. Pavlov's work with pain analysers illustrates the extreme diversity of the possible results.

The Psycho'ogical Concomitants

The psychological concomitants of pain are manifold. An acute pain, when severe, usually dominates the victim's sensorium, often to the exclusion of other internal and external impressions. In other words, there arises a state of preoccupation or inattention to environmental stimuli. This is one of the most common feeling-tones associated with pain. There results an inability to concentrate upon physical or mental activities. Irritability is another very frequent occurrence during states of painful experience.

The major affects of rage, fear, anxiety, or despair may also accompany the feeling of pain. Their presence depends upon the nature of the pain and the circumstances under which the suffering occurs. Thus, the pains of punishment, conflict, illness, and surgical manipulations differ radically in their attendant circumstances, and they will obviously produce very different emotional states. A sudden violent blow will evoke sentiments of anger, or perhaps of fear, as well as a feeling of pain: a victim suffering the agonies of colic or of angina is assailed not only with pain, but with feelings of anxiety, uncertainty as to the outcome and duration, and perhaps despair. The victim in the dentist's chair may undergo his sufferings with alarm, but no anxiety assails him as to the possible deadly significance of his pain or its duration.

It is a commonplace that under the stress of an agonizing experience the sense of time may be disordered. To the sufferer, time passes at a pace much slower than the common estimate: "each minute seemed an hour" is often heard in descriptions of acutely painful experiences. This point is well emphasized in electrical accidents; owing to the tonic contracture of the flexor muscles, the hand which makes contact with a live wire may grip still tighter and the victim is unable to release himself, although suffering intense agony. This so-called "elongation of the sense of time" is well illustrated in the following personal accounts:

An engineer who became suspended from a live wire conveying a current of 230 volts writes: "I cannot say how long I was suspended: naturally it seemed ages, but my last feelings before losing consciousness were the most agonizing pains I ever wish to feel." Another, who accidentally seized a telephone wire which was grounded, reported: "The duration of the shock could not have been more than a couple of seconds. A man riding by on a bicycle going at a good speed had only time to pass about thirty yards beyond me when the operator got through talking and opened the switch; yet I could see every spoke in the bicycle and it barely seemed to me to be turning. I could feel every reversal of the current, and these reversals occur at the rate of sixty complete cycles per second. It is this intense activity of the brain to electrical impressions that makes an instant of electric shock seem hours to the sufferer."

It is interesting to recall that depression is rare as a concomitant of severe pain. Older writers often mention that physical and moral pain cannot coexist in any intensity. Ribot puts it: "It seems as though the organism had but a limited capacity for either pleasure or pain, and that neither feeling can exist at the same time in its double (physical and moral) form."

With protracted states of severe pain, marked psychological adjustments are to be anticipated. Whether these will fall into any particular pattern is perhaps questionable, and as much will depend upon the previous personality as upon the circumstances of the present suffering. When disability or disfigurement accompanies the distress, the workings of an organ inferiority may at times be traced. To the layman, chronic pain has long been associated with a subtle process of refining or cleansing whereby the individual is exalted.

Sleep may follow intense suffering, and may even amount to pathological drowsiness. This has been noted in tortured criminals, and lesser examples might be quoted in the drowsiness associated with the severe headache of migraine and cerebral tumours. In the sleep which succeeds or accompanies the exhaustion of torture, dreams of a peculiarly vivid or complex character are often experienced. Jack London has described in *The Jacket* (*The Star Rover*) the particularly coherent and continuous visions of Durrell Standing while undergoing a series of ordeals by strait-jacket.

He would dream that he was addressing learned societies on abstruse problems, often waking to the sound of his voice ringing in his ears and with imaginary pages of manuscript floating before his eyes; that he was journeying on horseback

* Read in opening a discussion in the Section of Neurology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

through the meadows of some vast farm ; day by day the dream story would develop coherently and consecutively, and unroll itself before him. Shrubs and plants would grow from small beginnings into tall vegetation, which would later be felled by the labourers' axes, collected, dried, and burnt in great heaps.

Secondary Sensations

In a few individuals a curious phenomenon may arise during the course of a painful experience. Accompanying the pain feeling—and even at times replacing it—there may be a stimulation of one of the special senses. This is spoken of as a secondary sensation, or "synaesthesia." Secondary sensations associated with a *pain* stimulus (synanalgesiae) are of course merely one of numerous other synaesthetic phenomena which may accompany other experiences. When we read in literature descriptions of painful experiences we not infrequently find the writer using the language of some special sense in order to describe the quality or intensity. Most commonly we find the pain described in terms of colour. This technique may be employed either in the form of a metaphor or of a simile. Thus we find Homer referring to "black pains." Three examples may be quoted in illustration.

In *The Dream Ship* we read: "Bran decided all his likes and dislikes by colour and smell. His favourite colours were yellow, red, green, and wet-black. The last was very similar to ordinary black, which was the colour of toothache. Little rheumatic pains . . . were grey. The worst pain you could get was a purplish-red one."

Again, in Leonhard Frank's *Brother and Sister* we read, apropos of a maternity ward: "There was nothing in the white-painted room but a white-covered ottoman, a white table of instruments, and a white washstand. Lydia was white too, and the doctors and sisters were white. Only the pains had violent colours, all colours."

In describing the pains of a gastric carcinoma J. C. Powys writes in *The Glastonbury Romance*: "The pain took various shapes in Tittie Petherton's consciousness, according to its intensity. What it resembled now was a round black iron ball of a rusty blood colour, covered with spikes."

When we encounter in literature or poetry such metaphorical intermingling of different sensations we perhaps attribute it to the technique of the writer, who deliberately invokes symbols and startling contrasts, metaphors, and discords in order to emphasize and impress. Undoubtedly this view would be not altogether incorrect, but we are also at times witnessing a less conscious expression of the artist's synaesthetic imagery. Many persons habitually experience secondary along with primary sensations, and examples may find their way into literature, and even into popular diction.

In their minute analysis of *die sekundäre Empfindungen* Bleuler and Lehmann write: "Pains are never felt or recollected without their appropriate colours. They are coloured variously, according to their intensity. Violent pains are accompanied by an idea of white ; still more intense and localized pains go from yellow to red and to dark brown ; dull headaches give a tint which is almost black ; darting pains, an idea of white dots ; a pinch, a yellow tint, which is clearer the keener the pain is ; indigestion, a more or less clear grey ; colic, a clear yellowish tint, which may pass over the red or brown."

At the National Hospital for Nervous Diseases a blind patient who had a keen synaesthetic imagery used to describe all pains as red.

Latent synaesthetic faculties may sometimes be enhanced artificially, as, for example, by intoxication with certain hallucinatory drugs. Mescal is one of the most potent pharmacological measures of this type, and Mayer-Gross and Stein record that on stimulating the cold spots of a patient intoxicated with mescal the sensation was described as "cold, lightning-like, unpleasant, light, and blue." But when the stimulus failed to hit off a cold spot the sensation was described as "soft, diffuse, dark, and blunt." By the same subject hunger was associated with *green* and pain with *bright red*. Under conditions of partial narcosis, or when pain appreciation is temporarily blunted or abolished, another sense image may replace the sensation of pain.

Thus, a patient under a light nitrous oxide anaesthesia during a paracentesis tympani saw two revolving circles of light, which, at the moment when the instrument was introduced into the ear, immediately came into contact with a noise like two circular saws. They remained in contact while the instrument was in position, and separated when it was withdrawn. This experience recurred each time the operation was repeated.

An epileptic, describing his attack, writes: "Not unconscious . . . but under no circumstances can I talk or move any limb with complete control. If I fall and hurt myself, even severely, I do not actually feel the pain, but rather hear it."

It is well known, of course, that this synalgesic phenomenon may be reversed. Thus stimulation of a sense channel may evoke a feeling of pain as a secondary sensation, even when the stimulus is not intense. Kipling, in *They*, writes of an old lady whom certain colours "*hurt*." Féré described itching of the skin on hearing shrill notes, while Bleuler had a carious tooth which would ache when he heard music. Pain on hearing high notes or on intense light stimuli was described by Helmholtz, and has recently been the subject of exact study by Helsmoortel.

Susceptibility to Pain

Since pain is mainly a personal sensory experience, its study is beset with the difficulties attendant upon all subjective phenomena. When an individual says he feels pain we are almost entirely dependent upon his descriptions if we wish to learn about its site, nature, and intensity ; indeed, when we accept its actual existence we rely upon his word alone. Individuals vary considerably in their powers of description, so that knowledge of another's pain is limited by the victim's intellectual and educational status, as well as by his degree of critical introspection and command of language. Could we investigate twenty persons inflicted with an identical pain stimulus—whether it be the extraction of a particular tooth, a hypodermic injection, or a blow—we would certainly find that the twenty descriptions varied considerably, if not the twenty subjective experiences. Some persons, for example, habitually employ superlatives in speech, and will speak of the pain as "agonizing," "terrible," or "excruciating." The appropriate affect is not necessarily present, however.

But despite all verbal shortcomings and exaggerations there exists an obvious difference in the pain reactions of individuals to what is, as near as possible, an identical stimulus. Common experience teaches that the burly, lymphatic artisan feels pain less than the fragile artist or thinker. As Mrs. Browning put it, "the mark of rank in nature is capacity for pain." Precise data in this matter are scant, however, although Macdonald some years ago made a careful psychometric study of pain sensitivity. His findings confirmed the general impressions by demonstrating a greater sensitiveness in the young than in the old, and in women than in men. Social factors were significant, for the cultured, educated, delicately nurtured, and well-to-do suffered more from pain stimuli than the uneducated, hardier, poorer classes. Racial factors are of considerable importance, for the white and "civilized" peoples are notoriously more sensitive than coloured and primitive races.

A marked degree of indifference to pain has been associated by Lombroso with habitual criminals—particularly those who are addicted to crimes of great violence and

brutality. Schilder has noted this insensitivity to pain in at least two criminals, one of whom was the infamous Baker. This man had been arrested for the murder of a watchman by stuffing cyanide down his throat. Psychological investigation quickly revealed extreme hatred and marked sadistic tendencies, harking back to early childhood experiences. Baker boasted that he had killed at least ten other persons.

It is noticeable that the degree of pain sensitivity does not correspond exactly with susceptibility to surgical shock. Post-operative experiences teach how well women and young children sustain severe surgical ordeals, although actually very susceptible to pain.

Insensitivity to Pain

Very occasionally one encounters persons who seem to possess such a high threshold for nociceptive stimuli that pain rarely, if ever, enters their experience.

For example, I was once asked to see a pale-faced, weedy young man, because his doctor had noticed him to be relatively insensitive to pinpricks and other painful stimuli. This I confirmed. He did not flinch when I drove a pin hard into him; he stated he could feel the prick, but said that "it was nothing very much." Inquiry revealed that this hypalgesia had always existed; minor surgical measures, such as the lancing of a whitlow, had been carried out without discomfort. On several occasions teeth had been extracted without anaesthetic and with no suffering whatever. Once, during an argument, a neighbour broke an umbrella over his head, but failed to provoke any pain. A noticeable feature in this case was the discrepancy between his insignificant physique and his apparent fortitude.

A similar case has been described by Weir Mitchell. A legal friend of his, who died at the age of 56, had never felt pain keenly at any time in his life. Having had his finger crushed during a dispute over politics, he bit it off. He had an ulcer on the toe for three years, yet suffered no pain. A severe abscess once developed on the hand, and, spreading to the forearm, endangered his life. No pain was felt, however, even when the arm was lanced. Operation for bilateral cataract was performed without the use of a local anaesthetic. Only on his deathbed did he complain of a little discomfort.

More recently Dearborn has published an account of Edward H. Gibson, well known in American vaudeville as "the human pincushion." This man had never experienced pain other than an occasional headache. Numerous accidents had befallen him during the fifty-four years of his life: he had been struck in the face with a pickaxe, his head had been laid open with a hatchet, a revolver bullet had passed right through his index finger, his fibula had been fractured, his nose broken, his hand burnt on a hot gas stove until the smell of charred flesh became noticeable. But in all these accidents scarcely any pain had been experienced, although he had sustained a certain degree of shock in some. An attack of acute otitis media troubled him so little that he did not stay away from school. A double pneumonia and a typhoid ran their course without pain. In his music-hall act he would appear twice daily in appropriate undress and invite members of the audience to thrust pins into him anywhere except the abdomen and the groin. Sometimes at one performance as many as sixty pins would be driven in up to their head. A challenge of 5,000 dollars was offered to any physician who could detect any sign of pain. He once staged a crucifixion act: four gold-plated spikes with needle points were prepared, and a wooden cross was erected. A man then hammered one of the nails through the palm of his hand, and would have continued with the other extremities had not the performance been broken up at this point by the collapse of certain of the audience. There was no evidence in this man's case of obvious nervous or mental disease, and hysteria could be excluded.

Schilder, in discussing this particular case, referred to a similar patient in whom there was a familial incidence of this peculiarity. In Schilder's patient there was no pupillary reaction and no alteration in pulse rate and blood pressure on painful stimuli. Furthermore, there was an extreme degree of sado-masochism.

Varying Pain

Just as persons differ in their susceptibility to pain, so an individual may vary in his sensitivity under special circumstances. Common experience reminds us that under the stress of strong emotion—excitement, anger, pleasure—the threshold for pain becomes temporarily raised. The footballer may be unconscious of the injury which raises a bruise; the soldier may be unaware he is hit until he sees blood flowing from his wound. More prolonged insensitivity may occur in states of exaltation or religious ecstasy, during hysterical states of dissociation, and in mediumistic trances. In other circumstances pain sensitivity may be temporarily lowered. Thus deep introspection, self-analysis, and close attention will augment the effects of stimuli. In certain neuroses and psychoneuroses this process is constantly operating. Some believe that in hypochondria there is a persistent lowering of the threshold, so that quite trivial stimuli are interpreted as pain—possibly even those activities which ordinarily do not reach consciousness, such as the beating of the heart and the movements of the viscera. The threshold for pain may be temporarily reduced by such factors as cold, hunger, and fatigue. Cachectic and debilitated subjects are usually more sensitive to painful impressions. In such mental states as mild depression, particularly when accompanied by agitation, pain susceptibility is increased. With deeper and anergic types of depression, however, the patient may be indifferent to nociceptive stimuli.

The grossest examples of insensitivity are found in certain cases of insanity or mental defect. Idiots and imbeciles often injure themselves by beating their heads against a wall, gnawing their wrists, or pummelling themselves. Cases are quoted of psychotics who plunge their arms into boiling water, or into a fire until the charred flesh drops off, or who chew broken glass.

Goodhart described a post-encephalitic girl who, with her nails, tore out both eyes, with optic nerves attached. Objective tests revealed that ordinarily she appreciated pain stimuli quite normally.

Another case—probably also one of post-encephalitis—has been described by Conn. His patient, a girl of 21, was admitted on account of severe pains in the head and hands. Whilst in hospital she violently fractured all her phalanges, dislocated her thumbs, and tore off her ear. She affirmed that this caused her no discomfort, and, in fact, relieved her pains. She seemed proud of her action and cheerfully displayed her bleeding and mutilated hands to her horrified mother. When asked what was in her mind at the time she injured herself she replied: "I had to see blood, I wanted to see blood come out, I wanted to keep the blood from reaching my head so I wouldn't go out of my mind, as I hadn't menstruated."

The explanation of these insane acts of automutilation is problematical, and may indeed vary with different cases. In some patients the pain experience may be perhaps incorrectly interpreted. Thus, a patient described by Galton once burnt himself accidentally; thereafter he repeated the performance deliberately on several occasions. Perhaps in the majority of cases the self-infliction of pain represents an effort to appease a sense of guilt or to atone for a misdeed, real or imaginary. Thus in Conn's case, quoted above, there was probably a strong feeling of self-reproach on account of masturbatory practices, and the author instances the Biblical injunction, "If thy right hand offend thee, cut it off . . . and if thine eye offend thee, pluck it out."

In a recent novel, J. C. Powys narrates how an obsessional psychoneurotic volunteered to be crucified in the Glastonbury Passion Play in the attempt to atone for an unpardonable offence ". . . right up to the end, till by straining his torso to the breaking-point he lost consciousness, he not only endured this anguish, but he exulted in enduring it. His exultation kept mounting and mounting—extreme pain and ecstatic triumph embracing each other in dark, mystic copulation."

Lastly, it is possible that pain may be deliberately sought in order to relieve a more distressing discomfort or sensation. Thus, the dull aching pain of a neuritis or an intolerable feeling of itching, tickling, or burning, may perhaps be assuaged only by the distraction of sudden fresh sensory impulse, even though painful in character. This phenomenon is, of course, common in normal subjects, and may well be of more frequent appearance among the insane.

The Factor of Attention

An interesting psychological point is raised by the question of expectation. Is a sudden and unexpected painful impression more intolerable than a stimulus of equal intensity falling upon an expectant subject?

Here there is probably an individual factor. In some persons no doubt a pain which comes suddenly and unexpectedly produces a reaction in which shock and discomfort are so intermingled as to outweigh the sensation which would succeed an anticipated stimulus. We know that in the case of electric shocks the factor of surprise is extremely important, the ill-effects being less when the shock is anticipated. There is a much-quoted case of a man who used to suffer deliberately a current of 500 volts. One day he accidentally made contact with this same current and was killed.

On the other hand, there are individuals whose dread of pain sensations is so great that the apprehension of an approaching stimulus greatly outweighs the effect of the pain when it arrives.

Hugh Walpole has expressed this admirably: "Only once or twice in his life had pain actually come to him. He did not mind it so deeply were it part of an illness or natural causes, but the deliberate anticipation of it—the doctor's 'Now look out; I am going to hurt!' the dentist's 'I may give you a twinge for a moment!'—these things froze him with terror. During the war, when he had offered his service, this was the thing that from the clammy darkness and the night leapt out upon him. . . . There had been times at the dentist's and one operation. That operation had been a slight one, but it had involved several weeks of the withdrawing of tubes and the probing with bright, shining instruments. Every morning for several hours before this withdrawing and probing he lay panting in bed, the beads of sweat gathering on his forehead, his hands clutching and unclutching, saying to himself that he did not care, that he was above it, beyond it . . . but closer and closer and closer the animal came, and soon he was at his bedside, and soon bending over him, and soon his claws were upon his flesh and the pain would swoop down, like a cry of a discoverer, and the voice would be sharper and sharper, the determination not to listen, not to hear, not to feel weaker and weaker, until at length out it would come, the defeat, the submission, the scream of pity." Later, again: "The sense of the coming pain had been more awful than anything that he could have imagined. . . . One night earache attacked him. It was a new pain for him, and he thought that he had never known anything so terrible. Worse than all were the intermissions between the attacks and the warnings that a new attack was soon to begin. That approach was what he feared, that terrible and fearful approach. He had said very little, had only laid there white and trembling, but the memory of all those awful hours stayed with him always."

Yet another problem concerns the effect of one pain upon another. Is the net result of two simultaneous painful sensations the algebraic sum of two components? Or does one disagreeable sensation aggravate the other? Thus, does toothache feel worse to a normal person than to one already suffering some other painful malady—for example, sciatica?

Hippocrates stated: "Of simultaneous pain in two places, the lesser is obliterated by the greater." This dictum is illustrated, of course, by the fortitude which victims of severe and prolonged pain may show under surgical attention. A patient with trigeminal neuralgia endures the pain of an alcoholic injection better than a healthy individual. This axiom of Hippocrates is only partly true, however, because much depends upon the quality of the pains concerned. A niggling or dull pain may so occupy the sufferer's attention as to render him irritable, apprehensive, and hypersensitive to fresh painful stimuli.

We know little as to the limits of human suffering, but we are perhaps justified in believing that when an intense painful stimulus is maintained for extreme periods of time, or steadily increased in intensity, there does not result a corresponding increase in pain feeling. In other words, a point is reached which transcends pain, and beyond which suffering becomes more tolerable. Little or no precise information is available as to the existence of such an adjustment, and the problem is one which to-day belongs more to the sphere of philosophy.

H. G. Wells ranks among the very few who have devoted thought to this problem. In *The Research Magnificent* we read of the elaborate mental exercises by which Beham strove by the deliberate overcoming of fear and pain to attain the "aristocratic life" or the "life set free." "He was clearly suggesting that in pain itself, pain endured beyond a certain pitch, there might come pleasure again, an intensity of sensation that might have the colour of delight. . . . He argued, we exaggerate the range of pain as if it were limitless. We think if we are unthinking that it passes into agony and so beyond endurance to destruction. It probably does nothing of the kind. And following on this came memoranda on the recorded behaviour of martyrs, or the self-torture of Hindoo ascetics, of the defiance of Red Indian prisoners. These things are much more horrible when we consider them from the point of view of the easy-chair . . . *are they really horrible at all?* Is it possible that these charred and slashed and splintered persons, these Indians hanging from hooks, have had glimpses through great windows that were worth the price they paid for them?"

Asymboly for Pain

Brief reference may be made to a variety of agnosia described by Schilder and Stengel. As the result of a local cerebral lesion, situated probably near the left supramarginal gyrus, a localized or a universal indifference to painful impressions may develop. The disability cannot be described as a "loss" of sensation because certain milder stimuli are still perceived, and also because its distribution does not correspond with that found in cases of focal damage to the sensory pathways. The defect is a higher one in the sense that it entails factors of inattention and of imperception.

Relief from Pain

We have no words in English to signify that state of mind which follows the cessation of a severe or protracted painful experience. "Pleasure" is obviously not the word required, as it suggests a more positive state than that associated with mere stoppage of pain. It would therefore seem that relief from pain is a rather negative and affectless state of mind for which no adequate term is forthcoming. Exception may well be taken to this view, however, and one may perhaps submit that the emotional state following pain is one of *relief*, being essentially attended by definite—even if transient—physical and psychological gratification. The condition of *bienaise* immediately succeeding the emptying of an over-distended bladder or the slaking of a severe thirst instantly comes to mind. One recalls the reply of the lunatic who was asked why he was beating his head against the floor: "Because it feels so mighty fine when I leave off."

Some of the psychological concomitants of painful experiences may linger even after the pain has ceased. Literature contains various examples of this post-algic state.

Paley said: "Pain itself is not without alleviations. It may be violent and frequent, but is seldom both violent and long-continued, and its pauses and intermissions become positive pleasures. It has the power of shedding a satisfaction over intervals of ease, which I believe few enjoyments exceed."

Hugh Walpole writes in his novel *Hans Frost*: "I am suffering to-night from a toothache, and I have always noticed that a toothache is the most unintellectual pain in one's body, just as, in all probability, a stomach-ache is the most intellectual. Have you ever noticed, sir, how bright and clear one's brain becomes between the spasms of indigestion?"

Algophilia

The pursuit of pain as a pleasurable sensation may be encountered under various circumstances; to this phenomenon as a whole the term "algophilia" is applied. There are instances of this which are so commonplace as to be regarded as physiological.

A few examples may be quoted. Discomfort or pain may at times be courted merely in order to enhance the effect of a succeeding pleasurable sensation. One may compare this process with that technique in music whereby a discord is deliberately placed before a harmony for the purpose of contrast. Another common experience is that of probing or fingering a carious tooth or a wound. By such stimulation a dull ache may be converted into a sharper pain; it is noteworthy, however, that this type of stimulus is never applied to a severe or prolonged painful sensation. We have already mentioned that pain may be deliberately sought as a method of alleviating an intolerable dysaesthesia or even of distracting the attention from harassing psychological experiences. Lastly, it must be admitted that some degree of submission to pain is demonstrable in the female in relation to the opposite sex, just as a certain aggressiveness is a normal feature in the male. When, however, the degree of pain which is sought is excessive or prolonged, or is pursued as an end in itself, then the phenomenon transcends normality.

Four main types of morbid algophilia may be enumerated.

1. *Psychotic.*—Instances of the enjoyment of pain among the insane have already been discussed. It is necessary to satisfy oneself that there is no impairment of sensation in such cases.

2. *Racial.*—Among certain communities or races pain may be deliberately endured as a traditional practice. The Samurai of Japan, the Spartans, the Stoics, and the Paramahamsas or nomadic Fakirs are cases in point. It is probable that in this group the pain itself is not desired so much as the accompanying virtues of fortitude, courage, and hardihood, which are deemed the spiritual counterparts. In this way Scaevola thrust his arm into the fire to demonstrate Roman endurance. At the flagellation dances of the Fulami young men bared to the waist call for volunteers to beat them with scourges, at the same time smiling, sneering, and taunting the flagellator. The young women bystanders are worked up into a frenzy of admiration, and tearing off their bead ornaments throw them at the feet of the victim.

3. *Religious.*—Self-abasement and the auto-infliction of pain find a cult among enthusiastic devotees of all manner of religious beliefs. We can trace here the associated idea of purification through ordeal of pain and fasting. Here again pain is desired, not for itself alone, but as a means to an end.

Last century Cornelius and Overbeck—two gloomy and eccentric pre-Raphaelite artists—used to prepare themselves for painting by flogging and fasts. In the same vein they eschewed the services of professional models, lest their canvas Madonnas should betray some undesirable traits of fleshliness.

If one may refer again to Hugh Walpole, we read how his Man with Red Hair, by suffering pain himself, had come to associate in his diseased brain the infliction of suffering with idea of power: "A good God, a sweet God, a kind beneficent God. That is no God. God is first cruel, terrible, lashing, punishing. Then when He has punished enough, and the victim is in His power, bleeding at His feet, owning Him as Lord and Master, then He bends down and lifts the wounded brow and kisses the torn mouth, and in His heart there is a great and mighty triumph. . . . Even so will I do, so will I be . . . greater than God Himself."

4. *Masochism.*—The association of sexual stimulation or gratification with physical suffering or mental humiliation is a well-known phenomenon. It exists in some degree in normal individuals—characteristically the female when in association with the male. The attachment of a woman to a brutal and worthless husband, the fidelity of the prostitute towards the souteneur, are commonplaces which have been worn threadbare in literature. When accentuated, however, a definitely morbid phenomenon emerges. Although in some respects masochism is the complement of sadism—where pleasure is obtained from the infliction of suffering—yet the two states are often interwoven. Under obvious masochistic trends there often runs an overt or suppressed sadism. Even in the life and works of the Marquis de Sade masochistic traits are demonstrable. To express the idea of an ambivalent "sado-masochism" the term "algolagnia" is often applied. We owe the word "masochism" to the writings of a nineteenth century Austrian named Sacher-Masoch, whose imaginative flights largely concerned ideas of self-abasement and mutilation. In retrospect we can detect similar trends in earlier writers, as, for example, Aristotle, Thomas Shadwell, and Jean-Jacques Rousseau.

The well-known passage from the *Confessions* of the last may perhaps be quoted: "Mlle Lambercier . . . at times threatened to inflict upon us that childish punishment which we deserved. For some time she contented herself with threats, and that threat of a chastisement quite new to me seemed terrifying; but after its execution I found it less terrible in fact than in expectation, and the funniest thing was that this punishment endeared me still more to her who had carried it out. All the truth of my affection and all my natural docility was required to keep me from seeking more of the same treatment by deserving it, for I had found in the pain, even in the shame, a mixture of sensuality which had left behind more desire than fear of experiencing it again at the same hands. . . . The same punishment administered by her brother had no pleasurable effect. . . . The second occasion was also the last, for Mlle Lambercier, having no doubt noticed by some sign or other that this chastisement was not fulfilling its object, gave it up. . . . Hitherto, we had shared the same room, and, in the winter, even the same bed. Two days later I was made to sleep in another room."

A vein of masochism runs through much of the decadent literature of the nineteenth century. We find flagrant instances in many of Swinburne's works (*Lesbia Brandon, Our Lady of Pain, Tebaldeo Tebadei*; in Barrès' *Ennemies des lois*; and in D'Annunzio's *Forse che si forse che no.*

Pain and the Sexual Feelings

The mode of interaction of such apparently dissimilar phenomena as pain and sexual stimulation is of interest. Various ideas have been held upon this subject in the past. Some would ascribe masochism simply to the mechanical and reflex stimulation of the nervi erigentes by strong afferent impulses along the spinal segments. Others would invoke the general "tonic effect" of pain upon the organism (Féré). According to another viewpoint pain shares with the sexual orgasm the power of arousing strong emotion—whether of rage or fear—in greatest degree. Thus, André Gide describes how his extreme hypersensitivity, which used to distress him when ill with phthisis, would afterwards afford him exquisite enjoyment. Any very keen sensation, he concluded, might become a source either of delight or discomfort, according to the state of the general health.

Perhaps the most acceptable hypothesis is that of a conscious or unconscious association of ideas linking up certain pain stimuli with concepts or recollections of a sexual nature. These latter may be so intense as virtually to swamp the pain sensation and produce a temporary analgesia.

Havelock Ellis has discussed at length and with great clearness the probable mechanisms underlying the masochistic phenomena. He points out that in algolagnia the pain in question is less important than the violent emotional outburst; that the pain endured is never intense, and is usually, if not always, bound up with sexual activity; divorced therefrom, pain is no longer pleasurable. The sufferings experienced by a woman in association with sexual excitement may be gratifying in that they enhance the dominant and assertive characters which she appreciates in her male.

Krafft-Ebing summarizes the problem thus: "The person in a state of masochistic ecstasy feels no pain. When a woman says that she finds pleasure in the pain inflicted by a lover, she means that under the special circumstances she finds pleasure in treatment which would at other times be felt as pain. Or else that the slight pain experienced is so quickly followed by overwhelming pleasure that in memory the pain itself seems to have been pleasure, and may even be regarded as the symbol of pleasure."

PHYSICAL EFFICIENCY AFTER OPERATIONS FOR HERNIA *

BY

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The simple title of this discussion is, I think, no index of the extent of the subject. It certainly involves the primary consideration of the problems of detailed technique for the effective radical cure of various types of hernia; but in addition wider considerations, such as the bearing of age and the physical type operated on, repair processes in muscle, and aponeurosis, and recovery of body function, and the importance of the psychical element in this relationship must be included.

The practical surgeon will in the first place wish to determine what type of operation is most likely to be effective in producing a lasting cure in the individual case. Indeed, the successful closure of the hernial opening will generally be admitted as being of the first importance in restoring the physical efficiency of the patient. The types of hernia to be considered are inguinal, femoral, umbilical, and incisional and traumatic. A superficial examination of records shows that the incidence of inguinal hernia is much greater than that of any other type. For example, in five years' operations for hernia at St. Thomas's Hospital the approximate proportions were 11 inguinal hernias to 1.4 femoral and 1 ventral. I shall therefore take as my text inguinal hernia. I propose to analyse the published results of operation for this condition and refer to my own experience of it, leaving it to those who follow to fill in gaps and comment on my argument.

Treatment of Inguinal Hernia

The radical treatment of inguinal hernia will be admitted as having been on a sound basis since the introduction of Bassini's method in 1890. Since that date many modifications of technique have been put forward, and some have found a permanent place in surgical practice. Bassini's method and the others that followed him were based on the principle of obliterating the sac and reinforcing, rather than reconstructing, the musculature which closes the inguinal canal. The next important advance was the use of the fascial suture or graft, a procedure which enables the surgeon in some degree to neglect the normal muscle closure of the canal and to substitute a fibrous diaphragm: this procedure is particularly adapted to the treatment of direct hernias, but its use for indirect hernias has advocates.

It might be thought that, in view of the amount of consideration given to the subject and the great bulk of cases which have been operated on, a common standpoint as to the best methods and their effectiveness would have been reached by now. This is, however, by no means the case. Inadequate or inaccurate information as to the late results of various operations is mainly responsible for this state of affairs. It is only in the last five or ten years that any systematic attempts to follow up hernia operations have been made. Even then in the figures resulting from such investigations one finds difficulty in assessing their proper value. The methods and standards of classification vary widely, and in all groups of figures there is a certain percentage of untraced cases which clearly weakens the value of any results arrived at. A further difficulty is that of estimating the value of new methods on account of the relatively small numbers reviewed and the shortness of the period of observation.

Assessment of Results

In discussions between surgeons on the end-results of hernia operations, the general impression to be gathered is that the individual surgeon using the method he favours seldom sees recurrences. No doubt there is a tendency for failures to be seen by surgeons other than those who first operated, but I cannot help thinking that a close and critical follow-up of all cases would show a much higher recurrence incidence than we believe to exist.

My own confidence in the satisfactory nature of results of inguinal hernia operations was shaken by my experience as consulting surgeon to the metropolitan police. Here we are dealing with a body of men some 20,000 strong, of picked physical efficiency, and young to middle-aged. The force, on the whole, is not exposed to excessive physical exertion. One would therefore expect a high standard of permanent cures after radical operations. The figures I have collected in relation to this group are small, but appear to be fairly constant each year. In the five-year period 1929–34 241 police officers were operated on for inguinal hernia. In 212 cases the operation was primary, the condition being double in fifteen. Four operations were for strangulated hernia. Twenty-five operations were for recurrences, which suggests an approximate recurrence rate of at least 11.5 per cent. In order to investigate the matter more fully I asked my first assistant, Mr. N. R. Barrett, to follow up and examine personally all cases of this type operated on at St. Thomas's Hospital for the previous five-year period. This investigation showed the incidence of recurrence to be even higher than this figure, and I will refer in detail to his findings later.

In the literature the most important statistical analysis of this subject is to be found in an article by Block.[1] He published in 1933 the collected results of 20,199 inguinal hernia operations. His figures were obtained from 650 different surgeons working in German clinics. The results he quotes are essentially of a bulk character, as he does not show the incidence of recurrence in relation to sex, age, or anatomical type of hernia. He himself recognizes that the estimate of recurrence varies with the individual observer. What one surgeon would term a weak inguinal region another would classify as a recurrent direct hernia.

* Read in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

None the less, the material considered is very large, and the figures resulting may be taken fairly to represent the present ideas on the Continent of the recurrence incidence. Of the total 20,000-odd cases reported only 6,029 were followed up for a period of two years or more. In this group 296 recurrences were reported. This recurrence incidence he analysed in relation to type of operation carried out, with the following result.

Recurrence Rate

Method	Total Cases	Cases Followed	Incidence of Recurrence
Bassini	13,220	4,177	177 = 4.2 per cent.
Gerard	1,857	559	32 = 5.7 ,,
Kocher	1,338	221	7 = 3.2 ,,
Hackenbruch ...	1,036	514	49 = 9.5 ,,

Results from smaller groups of figures are omitted.

He estimated the time of recurrence from personal investigation of 642 cases, the results being as follows:

Time of Recurrence in 642 Cases

Inside three months	131 = 21.3	per cent.	
For next three months	109 = 16.9	,,	,,
For next six months...	94 = 14.6	,,	,,
One to two years	68 = 10.5	,,	,,
After two years	224 = 34.8	,,	,,
Unknown	16 = 1.5	,,	,,

It is interesting to note that no less than 34.8 per cent. of recurrences occurred in this group after two years. In a large number of published cases the investigation has not been carried on sufficiently long after operation to include this group.

In the same group the cause of recurrence was put down by Block to the following factors in 548 cases in which the information was available:

Cause of Recurrence

Suppuration or wound haematoma	122
Pulmonary complications	79
Technical errors in operation	27
Double-sided operation	102
Constitutional defect and poor connective tissue ...	149
No observed cause	69

Is Recurrence Avoidable?

Block states that in his opinion 40 to 45 per cent. of recurrences are avoidable, and emphasizes the important influence in this direction of a double operation carried out at one sitting. The nature of the recurrence in the group investigated is shown in the following table:

Situation of Recurrence

Inner part of scar	286
Outer part of scar	170
Middle part of scar...	8
Unknown	3
Total	467

Although it is of interest to discover the exact nature of a recurrence after an operation for indirect hernia, I find it very difficult from published records to come to any definite conclusion on the subject. Certainly the majority of recurrences are not properly oblique or into remains of the original sac. Block's figures suggest that the majority of recurrences are internal direct hernias, and that is consistent with my observations (from a clinical standpoint) in a group of policemen.

Another matter of interest and perhaps practical importance drawn from these figures is the routine period for which hernia cases are kept recumbent after operation, the following being the report from fifty-five different clinics.

Length of Stay in Bed

Number of Clinics	Period of Recumbency.
1	1 day
1	4 to 6 days
2	7 days
36	In second week
12	After two weeks
3	After three weeks

Block, though he finds no obvious ratio to exist between the period of post-operative recumbency and the recurrence incidence, makes the statement that, though the time of return to work varies considerably, it appears to be latest in those patients who get up soonest after operation.

An analysis of the suture material used in relation to the recurrence incidence suggests that it has little or no influence on the results. The figures are as follows:

Effect of Suture Material

Material Used	Clinics Reporting	Cases	Recurrence Incidence
Catgut	36	7,980	4.3 per cent.
Silk	26	7,809	4.3 ,,
Thread	7	2,626	4.6 ,,
Silkworm ...	1	113	5.3 ,,

(The total death rate in this large group, excluding cases of strangulated hernia, was 0.5 per cent.)

Block was unable satisfactorily to determine the relationship of recurrence incidence to the experience of the operator. He notices in the cases of recurrence that the ratio of manual workers to sedentary workers is as 6 to 1.

Discussion

I have given in some detail the results of this investigation, as from the large number investigated they must carry considerable weight in forming a general surgical opinion in this subject. I should like, however, to emphasize certain criticisms as to their validity in assessing the recurrence incidence after operations for adult inguinal hernias. First, hernias in women and children are included in all results. By common consent the ratio of satisfactory cure in these cases is high. Secondly, only about three-tenths of the cases reviewed have been followed up, and of the group of 6,000 subjected to late examination few were traced for more than two years after operation.

From America the figures of Gibson and Felter[2] may be taken as representative of modern optimistic ideas. They conclude that in a group of patients numbering 1,618, the general recurrence rate is 2.9 per cent. For direct hernia they estimate it at 6.5 per cent., and give the astonishing figure of 1.3 per cent. for indirect hernias. It is of interest to note that they found the recurrence rate after double operations for indirect hernia to be 8.9 per cent. It should be noted that these figures were obtained from a quite inadequate follow-up; only sixty-seven cases were examined after two years.

Many reports of smaller groups of cases are to be found, most of them are designed to illustrate the results of some special technique. Bessin[3] reports on 4,500 cases operated on by Kirschner's modification of Bassini's method. He followed up, in 1932, 267 male cases of all types operated on in 1928, and found ten recurrences (4.13 per cent.). Six of the recurrences appeared in patients in whom the wound had suppurated, or who had suffered from post-operative pulmonary complications. He noted that atrophy of the testicle was not observed in any instance. Ostfeld[4] records 586 cases operated on by the Bassini

method, silk being used for preference as suture material; 239 cases were followed up, and the general recurrence rate was found to be 5.4 per cent. For indirect hernias the figures were 4.3 per cent., and for direct hernias 20 per cent. He noted that if the period of post-operative recumbency was limited to six days no increase in the recurrence incidence was noted. He finds that a hereditary influence doubles the likelihood of recurrence. Niessen[5] reports on 102 cases operated on by Schmieden's technique. In the sixty-six cases followed up there were six recurrences in men between the ages of 40 and 60. This method involves displacement of the cord, and it is worth noticing that in four atrophy of the testis followed, and that twelve cases complained of pain in the scar. I have not been able to find much in the way of figures from English sources. Turner and Eckhoff[6] reported a small group in 1929. In ninety-eight cases simple excision of the sac was carried out, and gave only three recurrences. In twelve cases in which a modified Bassini operation was employed there were two recurrences.

An almost refreshing note in this welter of satisfactory results is sounded by Birkenfeld.[7] He is concerned to show the association of hereditary tendency to the incidence of recurrence, and in seventy-six males followed up found a recurrence rate of 28.49 per cent. I think that the average results in the adult male are better represented by this figure than those previously quoted, although it seems incredibly high in comparison with the previous figures. N. R. Barrett recently examined for me 206 policemen out of a group of 295 who had been operated on between 1925 and 1929. Their average age was 32.5 years. The follow-up varied from five to nine years. In this group the recurrence incidence was 20.2 per cent. for indirect hernia, and 25 per cent. for direct. The average age of the men concerned was 31. In seven cases the recurrence appeared four or more years after the primary operation. In the forty-seven cases of recurrence bilateral hernia had been present and was operated on at one sitting. It may be noted that physical efficiency of many of the men was not sufficiently affected by the recurrence to prevent them carrying on with their duty. Twenty-six of the forty-seven came into this category, and of these only fourteen were wearing a truss.

Use of Fascial Suture

The use of autogenous fascia for suture was introduced, I believe, in 1904 by McArthur.[8] The method has been elaborated by several authors, but now the technique introduced by Gallie and Le Mesurier[9] appears to be the most satisfactory. The articles written in relation to this technique are multiple in number, but lack weight in the proportion of cases followed up for any length of time. The reason for this is probably that the fascial graft operation is reserved by most surgeons for direct, difficult, or recurrent cases. The theoretical case for the regular use of fascial sutures is put forward by Seelig and Chauke, and supported by Koontz. The latter thinks that preserved fascia is as efficient as fresh. They have shown that in reconstruction operations in the abdominal wall muscle and fascia sutured together with ordinary material do not unite. Koontz agreed to this, but states that if surfaces are first eroded union may be effected. This subject is reviewed by Hodgkins.[11]

Of the figures bearing on this technique those of Gallie and Le Mesurier, published in 1930,[10] may be noted. In 200 operations on direct and large indirect hernias they noted only four recurrences: all these recurrences appeared in bilateral cases. Lyle[12] reports on 159 bilateral cases followed for from one and a half to five and a half years on 132 cases operated on by the McArthur method and twenty-seven by Gallie's. He found 3 per cent. of recurrences in indirect hernia and 9.5 per cent. in direct. He states that in a group of operations carried out in the same period with catgut the recurrence incidence was twice as high.

Conclusion

I feel I have been guilty of firing off a lot of statistics, and when I come to an end I really do not quite know what I want to prove. The astonishing difference between the results that are indicated by these figures can hardly be laid at the door of any special technique. My own conviction is that recurrence after operation in the young to middle-aged is commoner and more difficult to avoid than we are inclined to think. When we come to consider how results are to be improved we are on thorny ground. The factors influencing success may be considered under the following headings:

1. Technical method.
2. Failures in technique, including suppuration and haematoma formation.
3. Post-operative pulmonary complications.
4. Operation on double hernias.
5. Hereditary tendency to hernia, or congenital feebleness of the musculature.

As opener of the discussion I shall refrain from commenting further on these points, as those who follow me will no doubt have clear ideas as to how some, at any rate, of these various pitfalls may be evaded.

Femoral and Ventral Hernia.—I have spent so much time on inguinal hernia that I shall only refer briefly to femoral and ventral herniae. I take it that in considering the closure of the femoral canal discussion will mainly range round the question of closing the femoral canal from above or below. I confess to belonging to the old-fashioned group, which thinks that a closure from below by Langenbeck's method gives as good results as any. I take it for granted that the stump of the sac is satisfactorily reduced within the abdomen, and that the crural canal is cleared of fat before the pectinal fascia is sutured to Poupart's ligament. I admit the apparent attractiveness of the upper shuttle type of operation, but remain unconvinced that it is the better routine procedure. The association of femoral with inguinal hernia is sometimes emphasized. No doubt, if at an operation for inguinal hernia Poupart's ligament is forcibly pulled upwards the crural canal is opened to some degree. The subject is elaborated by Hodgkins.[11] In a group of ventral hernias, whether they be umbilical, epigastric, or incisional, I think the operation must be worked out for the individual case. I confess my belief in the value of certain principles. They should be closed by fascia without undue tension, unless muscle is sufficiently adjacent to repair the gap without it being necessary to pull it out of its normal line of action. A fascial repair should be effected by a double overlap. When tension does not admit of this a fascial graft suture should be employed.

I trust that if my primary presentation of this subject was too paralysingly statistical my final categorical statements will prove useful material for discussion.

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THE PROLAPSE SYNDROME*

BY

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Briefly, the term "prolapse syndrome" means prolapse associated with excessive bleeding from the cavity of the uterus. Different women present differing forms and degrees of prolapse, but the common form consists of a cystocele and rectocele, with deficient perineum, and more or less descent of the cervix, accompanied by a hernial protrusion of the pouch of Douglas. When on straining the cervix protrudes for an inch or more from the vulva, the form of the prolapse becomes typical of that denoted by the term.

In the early part of this century removal of the uterus by the vaginal route was almost wholly abandoned in favour of the abdominal route. This change was partly due to the fact that gynaecologists were becoming surgeons rather than physicians, and partly because in a large number of cases abdominal hysterectomy is obviously the method of choice.

In 1919 I saw vaginal hysterectomy performed a few times with mild surprise. During the next few years it was less rare, and I saw it often enough to learn a technique and suspect that there might be occasions when it had some advantage over the abdominal method: advantage from the point of view of its being less exhausting to both patient and surgeon. To the eye of one accustomed to the abdominal approach vaginal hysterectomy seemed a kind of fiddling, delving in the dark, affair—a cobbling up of tissues with little resemblance to ordered surgical procedure. In the course of experience this impression became modified, and one was surprised to find that the steps of the technique naturally followed each other in a simple and orderly manner.

During this period it became my portion to operate on a number of 14-stone patients possessed of an enlarged uterus, the "adipose sporran,"† varying degrees of prolapse, and complaining of excessive bleeding, accompanied by such general impairment of physical capacity as merited hysterectomy for its cure. These cases were dealt with by the abdominal route, the three or more inches of subcutaneous fat and the "sporran" making the opening and closing of the abdominal wall, in itself, an operation of some difficulty. The subperitoneal fat and the heavily laden omentum further narrowed the approach to the uterus, partially obscuring landmarks and impeding the satisfactory application of ligatures. The majority of the patients sustained a fair amount of shock and passed through a stormy post-operative period. In some, mild suppuration occurred in the subcutaneous fat, wounds broke down, to heal finally by granulation; a few left the hospital with incipient incisional herniae, while two patients, including one of mine, burst their abdominal wounds about the twelfth day after operation, depositing the intestines in the bed. These were resutured immediately, and in due course recovered. There was great difficulty in finding anything in the way of separate layers for suture, the cut surface on each side being fused into a solid mass.

Being now free from bleeding, these patients, in the course of time, regained some of their former energy and physical enterprise, and began to notice their disability from prolapse. Some reappeared complaining of dragging pain, of something coming down giving difficulty in walking, or of stress incontinence of urine, and asked for relief. They required anterior colporrhaphy and posterior colpoperineorrhaphy, or, more briefly, reconstruction of the pelvic diaphragm, and in the case of some, whose former operation had been a subtotal hysterectomy, a hypertrophied actively discharging cervix required removal as well. A few required belts or further operation for their incisional herniae.

Remembering that these patients had already spent an hour on the operating table, experienced a stormy post-operative period and been three weeks or more in hospital, it seemed unsatisfactory that they should now reappear demanding another operation for part of their original complaint, and in a few cases further surgical treatment as a result of the former abdominal incision. Of course one knows that incisional herniae are sometimes unavoidable; but they are particularly liable to occur in the fat abdomen. This question of herniae, while being of interest, is secondary to the main consideration—that of a second operation for the treatment of part of the original complaint. The reconstruction operation being done, the patients spent on the average another three weeks in hospital, and returned to their vocations after a further period of two or three weeks' convalescence.

A Combined Operation

In thinking about this matter the question naturally arises: "Why not do a vaginal hysterectomy and combine it with the reconstruction operation?" There did not seem to be any very obvious objection, except the general consensus of opinion that vaginal hysterectomy formed no part of the operative treatment of prolapse, and was in fact contraindicated on the ground that in removal of the cervix one lost a stable suture point for the anterior vaginal mucosa. This reason I personally was unable to appreciate, because in order to render the cervix stable it had first to be hitched up in the pelvis by shortening the lateral ligaments, and further, in many cases, owing to hypertrophy and discharge, the greater portion of the cervix had to be removed as part of the reconstruction operation. The presence of the infected cervix might offer a further objection to opening the abdomen from below, or to the making of free vaginal incisions in its neighbourhood, and for some time this consideration made one hesitate to combine the two operations. On the other hand, amputation of the cervix is combined with repair operations, and here the infected cervix is actually incised, whereas in hysterectomy the incisions are not made in the cervix, but in relatively healthy adjacent tissue, even further away from the actual cervix than in the abdominal route; moreover, the condition of the cervix can be improved before operation by suitable douching.

With these considerations in view I began tentatively to combine the two operations, and up to the present time have found the procedure satisfactory to the patient and surgeon in suitably selected cases—namely, those whose symptoms and physical signs are denoted by the term "prolapse syndrome." This term, while including the prolapse sign and symptom complex, is meant to have a wider application, and extend to those patients who have an enlarged or retroverted uterus, or both, and complain of excessive bleeding, the condition of the uterus being such as to render practicable its removal from below.

Common Prolapse Symptoms

1. Girdle-ache, including sacral backache and dragging pain in the inguinal regions.

2. A sense of discomfort from something coming down in the perineal region.

* Read in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

† Adipose sporran: A fold of abdominal skin and subcutaneous fat which rolls down over the symphysis pubis.

3. Frequency of micturition, varying in degree up to stress incontinence.

4. Irritation from excessive cervical discharge.

5. Undue fatigue at the end of a routine day.

Perhaps the outstanding feature is a sense of diminished physical capacity; the patient can now undertake only with difficulty and resultant fatigue what she formerly accomplished with ease. The ordinary daily round of household and social duties produces exhaustion. This state of affairs is due partly to anaemia and partly to the discomfort and other disturbances arising from prolapse.

These symptoms combine to reduce the patients' physical capacity, and make them unwilling to undertake the discomfort of walking or other forms of activity. Other difficulties arise in the later stages of prolapse, but these need not concern us here. A number of multiparae—it is not possible to give percentages—with prolapse have, in addition to their hypertrophied cervix, an enlarged uterus, which may be retroverted. The enlargement of the uterus may be due to a chronic subinvolution, to multiple small fibroids, rarely to diffuse adenomyoma, or even carcinoma of the body; these conditions give rise to excessive bleeding, and are therefore suitably included under the term "prolapse syndrome."

Conditions Necessary for Easy Performance of Vaginal Operation

1. The uterus and appendages must be mobile.

2. The uterus must not be too large or associated with large tubal or ovarian swellings.

3. The uterine disease must be such as not to contraindicate its removal from below—that is, carcinoma of the cervix.

4. The cervix should come down readily to the vulva.

5. The vaginal outlet should be relaxed, or at least easily enlarged by a relatively small incision, something considerably short of the old Schuchardt's* incision.

Quite often these patients have the fat, more or less pendulous, abdomen, already referred to as unsuitable for abdominal incision.

TECHNIQUE OF THE OPERATION

Five operative procedures are combined: (1) anterior colporrhaphy, (2) vaginal hysterectomy, (3) reconstruction of the hernia of the pouch of Douglas, (4) posterior colporrhaphy, (5) perineorrhaphy.

I will briefly describe a standard method of linking these procedures.

1. Preparation of the field: the perineum is incised back to the anal margin. The nymphae are sutured to the thighs and traction sutures are inserted in the cervix. Determine area of vaginal mucosa to be removed: (*a*) of the anterior mucosa, inserting landmark suture to mark the upper end of the new anterior vaginal wall; and (*b*) of the posterior vaginal mucosa, inserting landmark sutures at the site of the upper end of the new posterior vaginal wall.

2. Removal of redundant tissue; the anterior and posterior mucosa and the uterus in one technique.

3. Reconstruction of the pelvic diaphragm. Fix the uterine stumps and ovario-pelvic stumps on either side to the upper margin of the new lateral vaginal walls. Join the cut edge of the peritoneum of the utero-vesical pouch to the anterior landmark sutures, thus forming the upper end of the new anterior vaginal wall.

4. Reconstruction of the anterior vaginal wall.

5. Remove the redundant peritoneum of the hernia of the pouch of Douglas and suture the peritoneal stumps to the posterior landmark sutures, thus forming the upper end of the new posterior vaginal wall.

6. Reconstruct posterior vaginal mucosa and the perineal body.

The operation in my hands requires an hour to an hour and a quarter for its performance, without undue difficulty in the control of unexpected oozing. There is, as a rule, no appreciable shock, and the patients do not have a stormy post-operative period. In general they are sitting up the next day, ready to do justice to their dinner. Towards the end of a week there is usually some vaginal discharge, which clears up readily with douching. The length of stay in hospital and the after convalescence period is the same as that for simple repair operations.

ADVANTAGES OF THE METHOD

1. The avoidance of two operations and the prolonged period of convalescence associated therewith, approximately five weeks instead of ten.

2. The avoidance of an abdominal incision in fat women and the possible post-operative complications.

3. The relative absence of post-operative shock.

I have looked up the notes of sixty cases. In all, the anatomical result* at the time of departure from hospital was good and the patients' general condition satisfactory. As far as the evidence goes at the moment this procedure would seem to be an improvement on the older method of two operations at different times by different routes.

Forty-four patients have been examined twelve months or more after operation, and fifteen three months or more. The anatomical result* was good, but in one case the posterior fornix, owing to imperfect fixation, bulged down to the outlet on straining, as a hernial protrusion. This gave rise to some discomfort, and has been repaired with success. Sixteen out of the sixty cases had post-operative *B. coli* cystitis, but in eight of these it was known to be long-standing. There were four slight secondary haemorrhages: one on the seventh day, and three between the tenth and twelfth days. Two patients had small abscesses in the perineum, which cleared up.

One case proved fatal. This happened in a mentally deficient woman who, by means of her fingers, removed the perineal stitches, became septic, and ultimately died from a pulmonary embolism. It is unfortunate that we were unable to recognize this woman's mental condition previous to the operation, for failure to do so has impaired what might otherwise have been an unblemished record.

* Schuchardt's incision: An incision starting in the left vault of the vagina and passing deeply on the left side of the anus through the levator ani to the sacrum.

* Good anatomical result.—The new vagina and perineum approximate to the nulliparous condition, the vagina admitting two fingers with some discomfort and No. 5 vaginal dilator without discomfort. There is no pouting of vaginal walls on straining, and no incontinence of urine on coughing.

With the object of promoting biochemical studies and research a Biochemical Society has been formed in Calcutta, and was formally inaugurated on July 6th at the All-India Institute of Hygiene. The first committee of the society has been composed of the following: Professor N. M. Basu, Lieut.-Colonel T. C. Boyd, Professor S. Ghosh, Professor J. N. Mukherjee, Dr. B. B. Sen, Professor H. K. Sen, Professor H. E. C. Wilson, with Dr. B. C. Guha as honorary secretary and Dr. B. Ahmad as honorary treasurer. It has been arranged to hold monthly meetings for biochemical discussions and reading of original papers. Four meetings have already been held, in which the following papers have been read: B. Ahmad, "The Metabolism of Carotene"; A. C. Roy, "A Purely Vegetable Medium for the Cultivation of Micro-organisms"; S. L. Banerjee and H. K. Sen, "The Catalytic Activation of Diastase"; A. R. Ghosh and B. C. Guha, "Vitamin C in Indian Foodstuffs"; R. C. Bhattacharjee, "Snake Venom and its Therapeutic Applications."

CYCLOPROPANE ANAESTHESIA

BY

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ANAESTHETIST TO THE GENERAL INFIRMARY AND TO THE HOSPITAL FOR WOMEN, LEEDS

In 1929 Henderson and Lucas of Toronto[1] began to use cyclopropane on laboratory animals as an anaesthetic. A large amount of experimental work was done, both at Toronto and at Madison, Wisconsin, before the new gas was first used clinically by Dr. Ralph M. Waters of Madison and Dr. A. E. Guedel of Los Angeles.[2]

Description

Cyclopropane is trimethylene ($CH_2.CH_2.CH_2$), an isomer of propylene ($CH_3.CH.CH_2$). It is heavier than air, with a density of 1.46, and is inflammable and explosive in concentrations of from 20 to 75 per cent. when mixed with oxygen. This is of no practical importance, owing to the closed circuit method of administration. At present it is made only by the Ohio Chemical Company, Cleveland, and is put up in fifty-gallon steel cylinders at a pressure of seventy-five pounds to the square inch. Its cost is still very high—25 dollars for fifty gallons. Including cost of carriage, insurance, cylinder purchase, and Customs duties, my own supply worked out at about 3s. a gallon, but fortunately (as explained later) very little is used per case. The gas is colourless, with a sweetish odour, not unlike chloroform or ethylene.

Clinical Results

The gas is not irritating to inhale, induction being smooth and rapid ; but if too high a concentration is administered at first there may be some laryngospasm. It does not cause salivation like ether, and it is rapidly eliminated, consciousness being recovered quickly. Shackell and Blumenthal[3] report that a monkey with advanced tuberculosis underwent anaesthesia five times, lasting upwards of six hours on each occasion, without apparent ill effect. Deep anaesthesia with good relaxation can be obtained, and the respiration is very quiet and shallow, but it is not certain how much of this is the effect of the gas itself and how much is due to the absence of carbon dioxide from the rebreathing bag. Clinically, the anaesthesia resembles that of chloroform, but the induction and recovery resemble that of nitrous oxide or ethylene.

It is, of course, premature to express any opinion yet, but cyclopropane appears to be a most promising anaesthetic, and it may possibly fulfil the hitherto unattained ideal of the safety and speed of nitrous oxide combined with the calm and quiet relaxation of chloroform. Dr. Waters, who knows more about it than anyone, is careful to avoid exaggerated claims until the anaesthetic has been very extensively tried out.

The gas causes little, if any, change in the blood pressure or blood chemistry, and it possesses the desirable feature which makes ether so popular—that is, in cases of overdosage the respiration fails before the heart. Animal experiment shows that cyclopropane anaesthesia deliberately mishandled by cessation of the oxygen supply can be taken to the stage of profound asphyxia and complete stoppage of respiration, which may be allowed to continue for six minutes before any effect is shown on the electrocardiograph tracings. If the administration is then stopped, rapid and spontaneous recovery takes place.

Method of Administration

Cyclopropane cannot be administered like nitrous oxide because of the prohibitive cost of such a wasteful method. Fortunately, like nitrous oxide and ethylene, it is excreted by the lungs unchanged, and is also unaffected by soda lime, so that the closed circuit carbon dioxide absorption method can be used. The sole function of the vast quantities of nitrous oxide used in a prolonged administration is to allow the patient to get rid of his carbon dioxide. If this is absorbed by soda lime, and oxygen is supplied in sufficient quantity for the metabolic needs of the body, the original bagful of gas may be used over and over again.

An air-tight cushioned face-piece is used, which can be strapped tightly on to the patient's head, and to which is attached a canister of granulated soda lime ; through this the patient breathes into a rubber bag. The soda lime granules are kept in position by a wire gauze diaphragm at each end of the canister, and the bag or face-piece has a tube attached for the admission of cyclopropane and oxygen. All joints must be air-tight. The gases are delivered through flow-meters or a water sight-feed bottle. Cyclopropane is of about the same density as carbon dioxide, and can be used with a flow-meter calibrated for that gas. Before beginning, one should blow through the canister to remove any dust.

The harness is placed under the patient's head, the face-piece, canister, and bag fitted together, and a stream of oxygen turned on. The patient is then allowed to breathe into the apparatus, and the cyclopropane is turned on—very slowly at first and then more quickly. In a short time the harness is fastened on to the face-piece, and the head turned to the side, so that the canister rests on the pillow. After three or four minutes, when the desired depth of anaesthesia is reached (the signs are much the same as with ether), the cyclopropane is shut off altogether and the oxygen flow adjusted so as to keep the bag just full. The position is then as follows. In the closed and air-tight circuit formed by the patient's lungs and the apparatus there is (or should be) the correct percentage of cyclopropane to ensure anaesthesia (9 per cent. for loss of consciousness, 14 to 16 per cent. for deep anaesthesia). The gas itself is breathed over and over again, and, in theory, need not be altered however long the operation lasts. The carbon dioxide exhaled by the patient is removed by the soda lime, and the oxygen absorbed is replaced by the inflow from the cylinder. It is a curious spectacle to see a prolonged anaesthesia carried out with nothing more than a trickle of oxygen.

During a long operation it may be necessary to add a small amount of fresh gas to compensate for any loss by leakage or by diffusion through the rubber bag or through the patient's skin. All anaesthetic gases diffuse through these two membranes, cyclopropane considerably more easily than the others. The ordinary-sized canister, containing about a pound of soda lime, will last upwards of six hours before refilling is needed. The time will vary according to the type of patient. It will become exhausted more quickly when used for exophthalmic goitre cases, which have a high basal metabolic rate. Exhaustion is indicated by deepened breathing caused by the accumulation of carbon dioxide. (Siebe Gorman and Co. now market a brand of soda lime which changes colour as it approaches exhaustion point.) During use the canister gets warm from chemical action, but never too hot. Excessive temperatures might be reached if CO_2 were added to the circuit from outside, so if this is to be done the canister should be removed for a time. But it is one of the advantages of the method that the breathing is so quiet, so it seems unnecessary to interfere with this by

adding carbon dioxide. As the patient is having about 85 per cent. of oxygen there is no difficulty whatever in maintaining a good colour.

Case Records

Personal experience of the drug in Leeds is at present limited to thirteen cases.

1. F, 41. Carcinoma of breast ; 65 minutes ; some delay in induction due to excessive caution ; anaesthesia otherwise good.

2. F, 34. Dilatation and curettage ; 20 minutes ; delayed induction again ; recovery period 2 minutes.

3. F, 33. Clearance of uterus ; 18 minutes ; again a slow induction.

4. F, 36. Simple amputation of breast ; 28 minutes ; quick induction ; blood pressure before operation 126/90, after 124/80 ; pulse before 112, after 76.

5. M, 32. Inguinal hernia ; 31 minutes ; adult of good physique ; blood pressure before 140/84, after 148/84 ; pulse 72, 72 ; cyclopropane was given for four minutes, then turned off, turned on again for a few seconds half-way through, because of slight movement ; patient was able to talk three and a half minutes after the mask was removed.

6. F, 48. Radium to cervix ; 15 minutes ; quick induction.

7. F, 26. Dilatation and curettage ; cautery of cervix ; 17 minutes ; quick induction.

8. F, 48. Hysterectomy ; 1 hour 16 minutes ; quick induction ; relaxation very good ; no swab needed for sewing up ; blood pressure before 125/80, after 120/80 ; pulse 150, 104.

9. F. Oöphorectomy, appendicectomy ; 1 hour 2 minutes ; relaxation good ; movement of leg in middle of operation owing to leakage ; anaesthesia rapidly deepened ; no swab needed for sewing up.

10. F, 29. Oöphorectomy ; good physique ; 49 minutes ; rapid induction, with slight struggling ; relaxation good ; moving 3 minutes after mask removed ; talking in 10 minutes.

11. F, 61. Incisional hernia ; 1 hour 15 minutes ; three-minute induction.

12. F, 56. Umbilical hernia ; 1 hour 35 minutes ; a bad risk ; enormously fat ; gas and oxygen not chosen for this reason ; bronchitic, which made it desirable to avoid ether. It was hoped that cyclopropane would solve the problem. After one hour anaesthesia was unsatisfactory—straining during sewing up could not be overcome, so a change was made to gas and oxygen with secondary saturation. This patient died four days later from pulmonary embolism.

13. F, 50. Hysterectomy ; after 35 minutes changed to ether, as good relaxation could not be obtained.

Conclusion

The apparatus used was somewhat of an improvisation, and apt to leak. At Madison, with apparatus specially built for the carbon dioxide absorption method, I saw hysterectomies and stomach operations performed with ease under cyclopropane, and saw no failures.

It must not be forgotten that cyclopropane is a powerful agent which will produce anaesthesia in low concentration, so that it must never be used with small proportions of oxygen in the same way that nitrous oxide and ethylene are used.

References

[1] Henderson, V. E., and Lucas, G. H. W.: *Anesthesia and Analgesia*, 1930, ix, 1.
[2] Stiles, J. A., Neff, W. B., Rovenstine, E. A., and Waters, R. M.: Ibid., 1934, xiii, 56.
[3] Shackell, L. F., and Blumenthal, R. R.: Ibid., 1934, xiii, 133.

During the last twenty years the number of medical practitioners in France has increased from 16,200 to 27,500, a rise of 70 per cent., while the rise in population has been only two millions, or 2 per cent. The number in Austria is 8,806, of whom 4,952 live in Vienna. In Czechoslovakia in 1933 there were 20 per cent. more practitioners than in 1930, there being one doctor to every 2,046 inhabitants in 1930 and one to every 1,689 in 1933.

Clinical Memoranda

METASTATIC CEREBRAL TUMOUR WITH PERFORATION OF AN ACUTE GASTRIC ULCER

In view of the reawakened interest in the part played by neurogenic factors in the aetiology of peptic ulcer, the features of the following case are recorded.

A woman, aged 46, was admitted for carcinoma of the cervix, with obvious secondary deposits in the bones of the pelvis and in the glands of the groin and supraclavicular region. The general condition was, however, fairly good, but the protracted downward course which had been predicted was cut short by her sudden death a few weeks after admission. At necropsy a general peritonitis was found, due to the perforation of a small ulcer on the anterior surface of the pyloric segment of the stomach. There were secondary deposits from the cervix in the liver and the lungs, and the lymphatic glands of the abdomen and thorax were extensively involved. The most interesting feature of the case was the finding of a solitary intracranial metastatic deposit, the size of a golf ball, situated in the dura mater over the upper part of the left Rolandic area, adjacent to the superior longitudinal sinus, depressing the brain and eroding the overlying bone. Histological investigation confirmed the metastatic nature of this cerebral deposit. A microscopical section of the ulcer revealed the typical features of an acute lesion.

Cushing, in his well-known work, has detailed the clinical, pathological, and experimental evidence in favour of the neurogenic origin of peptic ulceration. It has been shown that stimulation of the parasympathetic in the hypothalamic region, at the medullary nuclei or along the descending fibre tracts, leads to gastric hypermotility and hypersecretion. If the stimulation is continued erosions and ulcerations of the mucosa are produced. If the neurogenic origin of peptic ulcer is accepted it is possible that in the case here recorded the influences at work may have been produced by cortical stimuli from the tumour, or by irritation of the peripheral vagus by the enlarged mediastinal glands.

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AGRANULOCYTIC ANGINA IN A DIPHTHERIA CARRIER

The following case of agranulocytic angina is of special interest in that it occurred in a patient who was apparently a diphtheria carrier, and that, as it is not uncommon in Rhodesia to admit to hospital untreated European cases of diphtheria at the fifth to eighth day of disease with advanced membranous invasion of the fauces, pharynx, and nasal cavities, the diagnosis on clinical and bacteriological grounds was rendered the more difficult.

Case Record

A European girl, aged 21 years, was admitted to the fever hospital with the diagnosis of faucial diphtheria, confirmed by a positive throat swab report. On admission (? third day of disease) the temperature was 104.4° F. and the pulse rate 120 ; the patient complained of intense frontal headache. Examination of the throat showed acute oedematous inflammation of the soft palate, with membrane covering both tonsils and extending forward on to the palate, and on one side invading the pharynx. The glands of the neck were not enlarged. The membrane was not typically diphtheritic, being of a yellowish colour, and the general appearance suggested an acute streptococcal throat, but the proved presence of the Klebs-Loeffler bacillus led to the diagnosis of a double infection. Diphtheria antitoxin 16,000 units was given intramuscularly.

Fourth Day of Disease.—Patient toxic ; temperature 104.6°, pulse 130 ; headache persistent ; no change in throat. Blood film : no malaria parasites found, leucocytes difficult to find.

Throat swab taken on third day showed Klebs-Loeffler bacilli present, but streptococci in large numbers. In the morning 10 c.cm. of scarlet fever antitoxin was given intramuscularly, as experience had proved this to be of value in streptococcal infections in this district. In the evening a further 16,000 units of diphtheria antitoxin was given intramuscularly.

Fifth Day.—General condition the same; temperature 104.4°, pulse 136. Throat showed signs of improvement as the membrane was stripping, but general inflammation was still severe. Some enlargement of the glands of the neck was present. Further 16,000 units of antitoxin given.

Sixth Day.—General condition worse; temperature 104.4°, pulse 136. No sign of membrane in throat, but acute congestion persisting; glands *in statu quo*. Antitoxin 16,000 units given in the evening, as there was evidence of the membrane re-forming.

Seventh Day.—General toxaemia marked; temperature 104.4°, pulse 140. Thick yellow membrane had re-formed over fauces and palate; glands of neck more enlarged. Throat swab taken on the previous day showed no Klebs-Loeffler bacilli, and persistence of numerous streptococci. At 10 a.m. antistreptococcal serum 25 c.cm. and scarlet fever antitoxin 10 c.cm., made up to 100 c.cm. with saline, were given intravenously. Blood count: Total red blood cells, 4,210,000 per c.mm.; haemoglobin, 80 per cent. (Tallquist); colour index, 0.95; size of red blood cells, 7.32 microns; reticulocytes, 2 per cent. Total white blood cells, 600 per c.mm.; neutrophils *nil*, lymphocytes 88 per cent., large mononuclears 12 per cent., eosinophils *nil*, basophils *nil*.

The haematological findings confirmed the suggested diagnosis of agranulocytic angina, and explained the striking lack of response to serum therapy.

Eighth Day.—General condition much worse, with loss of consciousness; temperature 104.4°, pulse 140, weak. Throat condition showed membrane stripping, and marked glandular enlargement. It was decided to try blood transfusion, and though the requisite donor was obtained the patient collapsed, and death took place before the blood could be given.

Consideration of the details of this case leads one to the conclusion that the presence of the Klebs-Loeffler bacillus in the first place caused an erroneous diagnosis of membranous diphtheria with an accompanying septic infection, and that the correct diagnosis was agranulocytic angina with an incidental mild infection or "carrier" type of diphtheria.

My thanks are due to Dr. W. K. Blackie, the Government pathologist, for his invaluable assistance in the laboratory investigation of this case.

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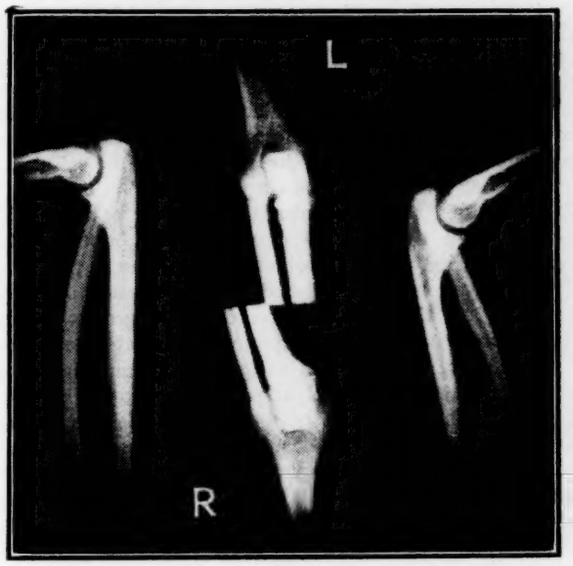
BILATERAL CONGENITAL MALFORMATION OF THE ELBOW-JOINT

The interesting feature of the case reported below, apart from its anatomical peculiarity, is the extremely good functional efficiency of the abnormal joints.

A domestic servant, aged 24, was admitted to the hospital on August 14th, 1933, and was under treatment for acute rheumatism in her ankles and knees. She made a satisfactory recovery in about three weeks. During her examination it was noticed that she appeared to have a marked prominence of both olecranon processes, which, she stated, had always been present. *X*-ray examination of the elbows showed a flattening and elongation of the head of each radius, which extended up over the capitulum, articulating with the humerus in much the same manner as the ulna. There was no evidence of fusion of the radius with the ulna, or of arthritic change in the joint, or bony rarefaction. The appearances were consistent with the presence of an articular surface between the extended surface of the radius and the corresponding surface of the humerus. Power and muscular development of both forearms was good, and the wrist-joint was normal. Extension of the arm at the elbow was limited about two or three degrees only, and there was a slight limitation of pronation and supination. There were no abnormal movements or sounds in any position. The patient stated that she had never noticed any disability in using her arms. She was much below average height and development, and had had a double talipes varus in youth, which had been cured by operation.

Most recorded cases of congenital deformities of the elbow-joint are radio-ulnar synostosis, synostosis of the humerus with the radius or ulna, or congenital dislocation of the radius. In radio-ulnar synostosis the union is



usually at the upper end of the bones by a broad bony bridge which unites the adjacent borders of the bones. Pronation and supination are completely prevented. An example of this deformity is given by Steindler.[1]

Cases of congenital synostosis of the humerus with the radius or ulna show more or less fusion of these bones with the humerus. Usually the ulna is affected, and often other congenital deformities are present. The deformity most often involving the radius is dislocation. This is of rare occurrence. Usually found in male children, its commonest form is a backward dislocation. The cases are often complicated by radio-ulnar synostosis.

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[1] Steindler, A.: *Pediatrics*, 1924, v, 383.

Reviews

CLINICAL SCIENCE

To those who heard the inspiring Harveian Oration delivered by Sir Thomas Lewis at the Royal College of Physicians in 1933, of which his latest book[1] is a welcome elaboration, the title *Clinical Science* will cause no surprise. To others, however, there may be some uncertainty as to its meaning. This will be quickly dispelled by the opening chapter on "The Scope and Methods of Clinical Science," in which will be found a detailed exposition of the author's meaning, given with that fullness of thought and clearness of diction which characterizes all his writings. The book deals with a matter of the highest importance to all who have the future welfare of medicine at heart, and the views which it sets forth are those of a great and enlightened thinker who has devoted his life to the subject. It is the proclaiming of a faith which the author himself has practised. To him clinical science means no new thing, nothing distinct from the science and art of medicine. Indeed, it is very old. The science of Harvey was clinical science. So far from suggesting by this term anything distinct from medicine, the author's object in choosing it is to emphasize the necessity, not for a divorce or even a judicial separation between medicine and science, but for their closer and more intimate union. Harvey fought for "science" against "no science," for accurate observation against vague tradition. Times have changed since his day. There is no longer a fight between "science" and "no science." Indeed, there is no longer a fight at all, but rather a matter of friendly adjustment among fellow scientists. During recent times medicine has availed itself so fruitfully and to so wide an extent of the help of the laboratory workers in the ancillary sciences that the true position and the paramount importance of the clinician in medical research have been somewhat overshadowed, and are in danger of being overlooked. To-day the prayer of the clinician may well be, "Save me from my friends!"

To strengthen and illustrate the views it upholds, the greater part of the work is devoted to accounts of the many and varied clinical problems which the author and his fellow workers have studied, and in many instances solved, during the last twenty or more years. Each short chapter, in itself a complete and concise essay on one particular item of investigation, begins with a definition of the nature of the problem to be solved, and the possible methods of approach. We are shown where and what kind of difficulties arose, and how they were met. Each is completed by a clear and full summing-up, showing exactly how far each problem has been solved, or what stage in its solution has been reached from which future workers can take off with security. With most of the thirteen problems here so admirably epitomized the author's name is inseparably connected, so that a mere enumeration of them is unnecessary. They range from auricular fibrillation to Raynaud's disease, from angina pectoris to axon reflexes. The number in which a real solution has been reached is astonishing. The harvest has indeed been rich. At the end of each chapter is a convenient reference to the original publications.

Did the book contain nothing more than this wonderful collection of essays it would be enough, and more than enough, to satisfy the most exacting reader. Each of them, however, is here not for itself alone, but in order that it may illustrate special points bearing upon the author's main theme. Whilst probably all will agree with the views which are here so ably advocated, opinions may differ as to the exact steps by which they may best be realized. It seems clear that if progress in this direction is to be made in the near future more whole-time clinical posts must be available at our hospitals, to which young men of high scientific training will be prepared to devote their lives—posts in which clinical research can be carried on not only with every facility which science can supply, but freed from the drudgery of class and office routine, or the intermittent calls of private practice.

To-day it is the word "clinical" which needs underlining. There are plenty of similar posts connected with the great medical schools throughout the country which are devoted to various lines of medical research, but most of them only deal with the margins of medicine. Its real centre is the bedside of the patient, and there, at the present time, research posts are far too few. In disease, as in health, "The proper study of mankind is man," and whilst for the purpose of such study every available help that animal experiment and laboratory investigation can give must be made use of, it is the clinician, and the clinician alone, who should be in control. It is our duty to see that the "clinical science" for which Harvey fought so long and so well does not pass into other hands, leaving little but the art of medicine for the clinician at the bedside.

A. J. H.

[1] *Clinical Science. Illustrated by Personal Experiences.* By Sir Thomas Lewis, C.B.E., F.R.S., M.D., D.Sc., LL.D., F.R.C.P. London: Shaw and Sons, Ltd. 1934. (Pp. 189; 49 figures. 12s. net.)

ACUTE INTESTINAL OBSTRUCTION

The problems of acute intestinal obstruction are varied and complex. Around them a vast literature has grown up, based on investigations into all the aspects of the subject—statistical inquiries, clinical, physiological, pathological, and experimental work. In his recently published monograph[2] Dr. Monroe A. McIver had embodied all that is of importance in this large mass of facts and theories, welding them into a coherent whole, and the result may be regarded as a fair summary of our present knowledge of the disease.

The book is divided into three main parts. The first part gives a general textbook account of the subject, with a description of the various types of acute abstruction, their aetiology, pathology, and clinical features. The morbid anatomy, effects on the various bodily functions, mechanism of dehydration and electrolyte loss, changes in the blood plasma and body fluids, and the bearings of these on the clinical picture, are discussed in detail. Three chapters are devoted to the functional obstructions, with particular reference to the difficult subject of paralytic ileus. The second part of the book is concerned with methods of diagnosis and treatment, and contains much practical information. In addition to descriptions of the operative procedures appropriate to the various types of acute obstruction, pre-operative and post-operative care, the choice of anaesthetic, and the treatment of complications arising during and after operation are considered. The third part begins with a description of the different types of animal experiment that have been carried out, and an attempt is made to correlate experimental results with clinical conditions. The various theories of the cause of death are reviewed; the highly controversial questions of toxin formation, their possible sources, ways of absorption, and modes of action; the role of dehydration and of vasomotor shock.

The book has been written by one who is obviously a master of his subject. The large extent of the ground which it covers is indicated by the fact that there are

[2] *Acute Intestinal Obstruction.* By Monroe A. McIver, M.D. New York: Paul B. Hoeber, Inc. 1934. (Pp. xviii + 430; 62 figures. 7.50 dollars.)

over eight hundred references to published work. Conflicting theories, and they are many, are dealt with impartially, the author reserving his personal views for a final chapter. His approach to the subject is modern and scientific, in that he always tries to explain phenomena in terms of underlying structural, functional, and chemical changes. Dr. McIver's monograph is likely to find a wide range of readers. Its special appeal will be to those who want to keep in touch with the most recent views on pathology and treatment without the necessity for very extensive reading.

BIOLOGY FOR THE GENERAL READER

Two of the criteria which should be satisfied by any modern book professing to give a general account of biology for intelligent but non-technical readers are: that it should deal with broad principles and the main characteristics which mark forms of plant and animal life rather than be built up round a description of various types; and that it should emphasize the importance of studying the reactions of organisms as complete units to their normal surroundings rather than the reactions of their various tissues and organs in a laboratory environment. These criteria are entirely satisfied by Professor Yonge's volume entitled *The A B C of Biology*.[3] The author describes it as a somewhat experimental book, and it is, indeed, written on unusual lines. A number of types are, of course, described in illustration of general statements of biological facts and principles, but it is these latter which are the main theme of the exposition. As Professor Yonge says in his preface,

"Biology is something more than biochemistry and biophysics, than the application of the methods of chemistry and physics to the analysis of living matter. There is a biological point of view which is broader and deeper than the purely physiological point of view, although it must include this. It is impossible fully to explain the animal or plant as a whole by the analysis, no matter how detailed, of the constituent parts."

The book begins with an account of the nature and origin of living matter, and the distinction between plants and animals. Then follows an admirably clear and succinct description of the mechanisms of life—the accumulation, transport, and utilization of energy; reception, response, and regulation with respect to environmental conditions; reproduction, growth, and development. This section includes a suitable account of the nature and importance of enzymes, vitamins, and hormones, of the main points in the evolution of the heart, the organs of sense, and the brain; and an excellent statement of the functions of the chromosomes and the general principles of inheritance. The third chapter deals with the organism as a whole, its powers of adaptation to every variety of environment, the nature, causes, and general course of evolution, with a brief review of the classification of the animal kingdom. The last chapter has to do with the study of living things in nature. This is perhaps the least adequate part of the book, but it well stresses the importance of the subject, and contains a number of interesting examples of the reactions and associations of organisms. It would have been well, we think, to have amplified this section, and to have included a brief account of mental development in animals as shown by behaviour.

It can scarcely be a matter of complaint that the book is mainly concerned with animals rather than plants. The latter are referred to only in connexion with the general account of living matter, the experiments of Mendel, and their interactions with animals. The volume is not intended to be a textbook for students of science or medicine, but it can be read by them with great advantage. The preparation of a textbook on similar lines to this, but with fuller material, would be a very valuable piece of work.

[3] *The A B C of Biology*. By C. M. Yonge, D.Sc. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1934. (Pp. 252; 50 figures. 4s. 6d. net.)

THE THEORY OF GYMNASTICS

New books on various aspects of physical education have increased noticeably of recent years. Among them there have been some characterized by a dullness and mediocrity which makes one doubt whether their publication could in any way further the subject about which they were written. Not so *The Theory of Gymnastics*,[4] by Professor Johannes Lindhard. It can at once be said that this is a book which will greatly enrich the existing literature and refresh the reader by its enlightened approach to the study and practice of gymnastics. The author is professor at the Gymnastic Physiological Laboratory of the University of Copenhagen, and his country is noted for its progressive educational work. This translation from the Danish will be welcomed by many English-speaking people, and especially by teachers of physical education. It will make a particular appeal to women gymnasts, because it considers aesthetic as well as physiological principles.

A mistake that has been frequently made regarding gymnastics for women and children is that they are taught almost entirely the same exercises as men, but perform a feebler version of them. That many of these are unsuited to women's form is obvious on seeing the often ridiculous attitudes taken up by women drilling—for example, Red Cross workers. Professor Lindhard's discussion of age and sex differences is interesting, and makes a good starting-point for the design or modification of exercises intended for men, women, or children. In a later chapter he examines seriously the posture which is at present officially accepted as "correct," and which is so often exaggerated, ugly, and physiologically unsound. To support his views he contrasts this with those idealized in ancient Greek sculpture, and most readers will warmly agree with his conclusions. A great variety of exercises are given here, and these are classified as order, corrective and balance exercises, and exercises to be done in marching, running, or jumping. They will provide an ample store for the teacher in search of ideas for individual and class work. The delightful photographs of the balance and running exercises for women are all derived from Mrs. Bertram's gymnastics, and should convince gymnasts that to attain perfection in body development and movement an aesthetic outlook is not merely desirable but is a fundamental necessity.

If the ideals set forth in this book are striven for by teachers of physical education there is great hope for improvement of physique, strength with suppleness, and grace of carriage in future generations.

CHINA THROUGH A SURGEON'S EYES

Dr. Albert Gervais, formerly a medical officer in the French Navy, "heard the East a-calling" while serving abroad, and so secured his transference to the French Medical Mission at Cheng-Tu. In *A Surgeon's China*[5] he tells of his life in Szechuan, that great rich province (larger than France) in the south-west corner of China of which Cheng-Tu is the capital. Though the author's observations are original, there are no subjects in the book that have not often been described before in the plethora of volumes on China—the journey to Cheng-Tu,

[4] *The Theory of Gymnastics*. By J. Lindhard. London: Methuen and Co., Ltd. 1934. (Pp. 259; 81 figures. 12s. 6d. net.)
[5] *A Surgeon's China*. By Albert Gervais. London: Hamish Hamilton, Ltd. 1934. (Pp. 303. 7s. 6d. net.)

civil warfare, Chinese social customs, and the account of a cholera epidemic. But he writes with ease and grace; he has the witty pen of the late Pierre Loti that carries the reader from page to page with pleasure. For medical men, especially those who have not practised abroad, his account of hospital and teaching work will be found most enlightening and interesting. Chinese mentality is in many respects so different from ours that the stay-at-home reader might well ask, "Can such things be?" Dr. Gervais's two attempts to teach his students anatomy by dissection of the human cadaver were in each instance thrilling. No one not gifted with resourcefulness and courage could have faced the ordeal in the successful way the author did. It is an informative book well worth reading, and the reviewer (who has spent a number of years in China) can add that it truly depicts the strange happenings that are a common experience of those foreigners who elect to live in the interior of that quaint and wonderful country.

Notes on Books

In her work entitled *Rhythm of Life*[6] Mrs. Sofie Lazarsfeld, who is in charge of a mental consultation bureau in Vienna attended by men and women of all social strata, but is not, as she informs us on page 303, a physician, deals with various sexual and educational problems from the point of view of the psychologist of Adler's school. The subjects discussed include monogamy and polygamy, the first sexual experience, the marriage of the professional woman, the development of woman's personality, and roads to sexual reform, with a record of illustrative cases.

Metastases and recurrences in bones arising from carcinoma of the female pelvic organs form the subject of a brief monograph by Drs. E. Philipp and G. Schäfer of Berlin.[7] Diagnosis, symptoms, method of spread, and treatment are comprehensively dealt with. Those specially interested in this subject will find here a large amount of valuable information in a very small space.

The second volume of the forty-fourth series of *International Clinics*[8] consists of three parts, concerned respectively with medical, surgery, and recent progress in obstetrics and paediatrics. To the first part Warfield T. Longcope of Baltimore contributes a paper on generalized oedema associated with disease of the gastro-intestinal tract, and illustrated by two cases associated with abnormally low plasma proteins due to amoebic and bacillary dysentery respectively. Thelma Lovett of Philadelphia reviews the pathogenesis of anterior poliomyelitis, and comes to the conclusion that most support, epidemiological and experimental, has been given to the nasopharynx as the site of inoculation, but that the route of invasion taken by the virus is the spinal cord has not yet been determined. Heredofamilial angiomatosis (telangiectasia) with recurring haemorrhages is the subject of a richly documented article by Hyman I. Goldstein. The surgical section contains papers on operative shock by Professor E. Rehn of Freiburg i/B.; operative collapse therapy in pulmonary tuberculosis by Ralph C. Matson and Ray W. Matson of the University of Oregon; indications for surgical treatment of peptic ulcer by I. W. Held and A. Allen Goldbloom of New York; on evaluation of our present knowledge of purpura haemorrhagica (thrombocytopenia) by R. L. Payne and R. C. Whitehead; and estimating the amount of disability by Earl D. McBride, as illustrated by records of seven cases, which emphasize the need of more careful primary examination so that an accurate diagnosis can be followed by adequate treatment. The obstetric and paediatric section contains papers on the toxaemias of later pregnancy by Nicholson J. Eastman, and on immunization against diphtheria and scarlet fever by Lawson Wilkins of Johns Hopkins Hospital.

In his book *Oil and Wine*[9] Mr. Philip Inman once more proves himself a zealous advocate for Charing Cross Hospital, of which he is the managing governor. He tells his entertaining tale in an easy journalistic style, and knows the value of a good anecdote. Much of the book is devoted to the methods of raising money for the hospital, and Mr. Inman has proved himself a king of beggars in his efforts on behalf of Charing Cross. He even went to America to beg for money—and got it. It does not occur to him to question the excellence of a system that manages its finances thus, and he naïvely accepts a situation in which a London hospital has to woo American financiers in New York in order to pay its way. That Mr. Inman has been successful is all to his credit, and due, perhaps, to his innocence abroad. But one would have welcomed from his pen a criticism of the financial side of the voluntary hospital system, and of the haphazard and—to many people's minds—undignified way in which the hospitals in the richest city in the world have to be maintained. Mr. Inman has generously given the net profits of the sale of his book to Charing Cross Hospital.

The various supplements to the *Acta Radiologica* (Stockholm) form a valuable series of monographs upon subjects connected with radiology, and in the latest volume (No. XIV) Dr. Thoraeus makes a study of the ionization method for measuring the intensity and absorption of Roentgen rays, and of the efficiency of different filters used in therapy.[10] The work, which is written in English, is necessarily of a highly technical character, and does not lend itself to detailed review in these pages. It is, however, of deep interest, fully maintains the high reputation of its author, and forms a most valuable contribution to the important subject of which it treats.

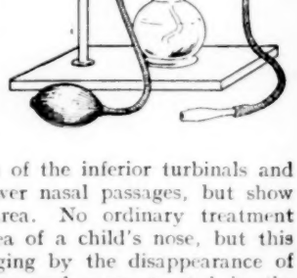
[6] *Rhythm of Life. A Guide to Sexual Harmony for Women.* By Sofie Lazarsfeld. London: George Routledge and Sons, Ltd. 1934. (Pp. 327. 10s. 6d. net.)
[7] *Metastasen und Rezidive im Knochen.* By Dr. E. Philipp and Dr. G. Schäfer. Berlin: Julius Springer. 1933. (Pp. 41; 37 figures. R.M. 9.60.)
[8] *International Clinics.* Vol. ii, forty-fourth series, 1934. Edited by Louis Hamman, M.D. London: J. B. Lippincott Company. 1934. (Four volumes quarterly. 50s. net.)
[9] *Oil and Wine.* By Philip Inman. London: Chapman and Hall. 1934. (Pp. 293. 8s. 6d. net.)
[10] Stockholm: F. Englunds. 1934. (Pp. 88; 40 figures.)

Preparations and Appliances

IODINE VAPOUR IN MAXILLARY SINUSITIS

Dr. A. R. Friel (London, W.1) writes:

Dr. W. A. Wells of Washington, D.C., published a paper in the *Laryngoscope* for October, 1932, on the use of a vapour derived from iodine and other substances in the treatment of suppuration in the maxillary sinus. The vapour is obtained by heating a powder containing iodine, boric acid, carbolic acid, menthol, cubebs, all four parts, and thymol one part. Mr. Weiss, chemist, of Tottenham, makes this up to 100 parts with kaolin. The apparatus used in America was electrically heated and costly, but Mr. Weiss has succeeded in supplying us with a pyrex glass container. About a teaspoonful of the powder is placed in this and heat is applied with a methylated-spirit lamp. The vapour is blown with bellows into the nose. I thought this treatment might be useful for some troublesome cases of rhinitis which are not due to congestion of the inferior turbinals and retention of secretion in the lower nasal passages, but show infection in the upper nasal area. No ordinary treatment can be applied to the upper area of a child's nose, but this vapour seems to get there, judging by the disappearance of the discharge. The results in several cases treated in the Tottenham clinic were quite satisfactory.



The apparatus and powder can be obtained from G. F. Weiss, M.P.S., 180, Philip Lane, Tottenham, N.15.

British Medical Journal

SATURDAY, NOVEMBER 17th, 1934

DOSAGE OF VITAMIN D

It is a discouraging fact that, in spite of constant efforts to emphasize the need for the routine administration of some antirachitic material to infants and young children, rickets is still quite prevalent. In a recent article[1] a group of workers in Toronto from the university department of paediatrics and the Hospital for Sick Children report a study of the relative value of cod-liver oil, viosterol, and irradiated milk in the prevention of rickets. Altogether 529 infants were observed over a total period of five winter months. At the time of first observation (at well-baby clinics) the infants were divided by rotation into nine groups according to the antirachitic agent employed: the first group received one teaspoonful of cod-liver oil daily (a high-grade Newfoundland oil containing 130 Steenbock units of vitamin D per teaspoonful), the second two teaspoonfuls daily, and the third three teaspoonfuls daily; the fourth group received 100 units of vitamin D daily in the form of viosterol, the fifth 200 units, the sixth 400 units, and the seventh 800 units. The eighth group was given twenty ounces of irradiated, pasteurized cow's milk daily, any further milk being taken as ordinary pasteurized milk, while the ninth group had all the milk required up to a total of one quart as irradiated milk. There were also a number of infants as a control group who had no additional vitamin D in their dietary. All the antirachitic material employed was biologically assayed, and the infants were carefully examined clinically and by *x*-ray photographs of the wrists at the beginning, in the middle, and at the end of the period of observation, the same physician being responsible for all the investigations and an independent observer reporting on the *x*-ray films without being aware of the antirachitic material used for any individual case.

The infants were all under 8 months at the time of coming under observation, and for the purpose of discussing the results the authors divided them into two main divisions for each of the groups—namely, those under 4 months of age at the original examination, and those between 4 and 8 months. During the period of observation the babies continued to attend the well-baby clinics, where they received the antirachitic material free of charge, and two nurses (described as "exceedingly competent") visited the homes at least once a month. Dosage and administration of the antirachitic materials could scarcely have been better controlled. The results show that of 137 infants receiving one, two, or three spoonfuls of cod-liver oil three developed moderate or marked rickets in the five winter months, actually all three falling into the larger dose groups (one had two teaspoonfuls daily and two had three). *X*-ray evidence suggested that, apart from these three exceptions, one teaspoonful was as effective as three in preventing rickets. The four groups having viosterol (186 infants in all) were all protected from moderate or marked rickets, and again the *x*-ray evidence suggested that 100 units of vitamin D in this form daily were as efficacious as the larger doses. The children who were given irradiated milk were likewise protected from moderate or marked rickets, and this had no relation to the amount (between twenty and forty ounces daily) taken. The *x*-ray examination included, besides the types already mentioned of moderate and marked rickets, two others classed as "very slight" and "mild" rickets, and it is a little difficult to follow the authors exactly in their final conclusions, which seem to a certain extent to ignore the development of these types. This is especially important in view of the fact that among sixty-five infants not receiving any special antirachitic treatment only five developed "moderate and marked" rickets, while fourteen were placed in the "very slight" category and ten in the "mild." It does, however, emerge from the study that irradiated milk presents the most practical way of ensuring a regular daily dosage of vitamin D, since the percentage of cases cancelled for unsatisfactory administration was lowest in this group. (It is important to note that pasteurized irradiated milk was employed, and the reliability of pasteurization in Toronto is well recognized. It would be a great mistake if this conclusion led to the use of irradiated raw milk in this country.)

The results in each individual group for each age division are unfortunately not numerous enough in each instance to make statistical analysis possible. It is still uncertain what is the minimum protective dose of vitamin D and the best means of giving it. Alfred Hess's last work before he died suggested that, on a basis of vitamin D potency, cod-liver oil gave best results, better than the irradiated ergosterol preparations. The Toronto work implies, however, that there is more chance of error in cod-liver oil administration. One aspect of the subject not touched on by the authors may be mentioned in conclusion. The cod-liver oil emulsions sold commercially or supplied by welfare centres in this country may vary in strength from 20 to 30, or, in rare instances, to 50 per cent. of oil, while the popular "cod-liver oil and malt" preparations usually contain only 10 per cent. of oil. The dosage of actual oil given daily when the preparation selected is administered in teaspoonfuls or fractions of a teaspoonful may only be a matter of minims. This may account for the continued prevalence of rickets, despite the greater use of antirachitic measures than ever before. The time is surely ripe for an investigation, on an even wider scale than the present one reported from Toronto, to settle by clinical trial, in terms of vitamin D, what is the minimum protective dose at each age period, and what is the best medium for its administration.

[1] *Canadian Med. Assoc. Journ.*, October, 1934, p. 368.

RECENT WORK IN RADIOLOGY

Even a cursory glance at the proceedings of the fourth International Congress of Radiologists held at Zurich last June[1] will show how great has been the progress in this branch of science during the past few years. In the early days of *x* rays the same apparatus was used for diagnosis and for the very limited methods of treatment available. Now, however, not only do *x*-ray diagnosis and *x*-ray therapy form two separate branches of medicine, each of sufficient importance to occupy the attention of a single individual, but here again regional specialization in the near future seems to be by no means improbable. Added to this is, of course, the therapeutic use of radium, which is intimately bound up with high-voltage *x*-ray therapy. In the official book giving abstracts of the various papers communicated to the congress an enormously wide range of subjects is treated, under the general headings of *x*-ray diagnosis, radiotherapeutics (*x* rays and radium), biological action of radiations, physics, apparatus and allied subjects, electrotherapeutics, and heliotherapy, including ultra-violet radiation. It is impossible in a brief general notice to "review" this wealth of material in the ordinary sense of the word. All that can be done here is to select a few of the less known uses and results of *x*-radiation which may be of general interest.

Diagnostic problems we must leave to those specially interested; but in the field of therapy the reader will be struck with the enormous benefits that have resulted from the employment of radiation methods in malignant disease. Under the heading "Radiation Genetics" there is a great deal of material which provides food for very careful thought. As its name implies, radiation genetics is concerned with the action of radiations upon the germ cell, and the possible changes that may occur in the offspring as the result of irradiation of the genital glands of the parents. The most recent experimental results point to the need for caution in irradiating the ovaries of potential mothers, and special prominence is given to the possibilities of damage which may be transmitted beyond the first filial generation. To one who has studied the cytological appearances occurring after radiation, such injuries appear almost inevitable. In the paper included in the present collection attention is specially directed to chromosome changes; but when it is realized that probably all the cell elements—extranuclear as well as nuclear—can be modified by exposure to radiation, it is surely not too much to urge that the possibility of far-reaching damage should be borne in mind. In particular, it is not gross lesions in the immediate offspring of the irradiated parent which have to be considered, but the possibility of such irradiation giving rise sooner or later to conditions of diminished well-being physically and possibly mentally. As regards the latter, animal experiments, valuable though they are in many ways, can hardly be regarded as conclusive when the higher mental faculties are under consideration. The need for intensive study and careful recording of results in future generations as time goes on is of paramount importance. Essentially the end-result of the action of intensive radiation upon any cell is to damage it. In the case of neoplastic cells this is, of course, the goal to which treatment is directed. In the case of normal cells it is a difficulty which has to be faced, and faced very definitely.

Among the problems of purely scientific interest may be placed the development of *x*-ray analysis. The analysis of crystal structure was the earliest work in this direction, and it continues to yield results of the highest interest in an important field of research. But it may come as news to many that *x*-ray methods have been extended in recent years to the elucidation of the atomic arrangement of organic compounds and organized structures. Describing as it does the activities of experts in all branches of *x*-ray and radium work, this report of just over six hundred pages will be found a mine of the most valuable information upon the recent developments and problems raised in radiological science.

[1] Leipzig: G. Thieme. 1934.

MATERNAL MORTALITY

A meeting was held at the Friends Hall, Euston Road, on November 6th, to draw attention to the serious risk which still attends childbirth in this country. The meeting also carried resolutions welcoming any encouragement to local authorities to maintain and develop child welfare services, expressing its uncertainty whether all local authorities were exercising their present powers adequately, urging the Ministry of Health to additional measures, and calling upon local authorities to arrange women's clinics for the supervision of post-natal and associated ailments. The speakers pointed out that the death rate associated with child-bearing remained almost stationary; that approximately four mothers died for every 1,000 babies born alive; and that the puerperal death rate for 1933 was 4.51 as against 3.87 in 1911. The report submitted by the Maternal Mortality Committee analysed the work done by various local authorities, from which it appears that about twenty-nine county councils out of sixty-one are aiding the maternity service in the district by putting into force half or more of the services they have power to provide. Of eighty-four county boroughs about forty-four are doing this, but the position in London is distinctly better, as twenty-two out of twenty-eight metropolitan boroughs appear to be using at least half their powers to aid child-bearing women. The report notices definite progress generally in most parts of the country in spite of financial difficulties and apathy. The committee, however, feels that the time has come for a further advance in the quality and comprehensiveness of the services offered. The most notable advance is the increase in the number of maternity beds, which are manifestly appreciated by the women. The attention of the conference was therefore particularly drawn to the need for improvement in domiciliary midwifery. Proper home conditions include, says the committee, a competent midwife working in co-operation with the

doctor, who has supervised the pregnancy and is prepared to come if emergency arises and to call in a consultant if necessary: they also imply careful maternity nursing, sufficient nourishment, and reasonably comfortable and sanitary surroundings. Medical and nursing supervision should continue until the woman is restored to her normal health. The committee is convinced that after pregnancy there is still much loss of health which is not severe enough to be called "maternal morbidity" in statistics, but nevertheless causes a grave loss of efficiency to the women and to the nation. Overwork, underfeeding, worry, and lack of sleep or rest do not prevent a woman from bearing a healthy child, but the work is done at excessive cost to herself. Despite the satisfactory state of the health of children and young people in the distressed areas, the committee finds a widespread impression that the health of working mothers is showing deterioration, and that they are suffering an undue proportion of minor sickness, anaemia, nervous fatigue, and malnutrition. The disability so caused cannot be measured, but makes it more than ever desirable that the women should be able to obtain advice and assistance not only during pregnancy but also in the intervals of child-bearing. It is within the power of local authorities to set up gynaecological clinics under the Public Health Acts, and the Maternal Mortality Committee suggests that they should be urged to do so as a means of protecting and safeguarding the health of working mothers.

"A DOCTOR FROM PADUA"

An evening reception was held at the Royal Society of Medicine on November 8th at which the customary brief lecture was delivered by Dr. Arturo Castiglioni, professor of the history of medicine at the University of Padua, the subject being the glories of that ancient seat of learning. The large company, which included members of the staff of the Italian Hospital in London, was received by Dr. Robert Hutchison in his president's robe, a copy of that of the rector of Padua. In the library, through the kindness of Dr. Arnold Chaplin, Harveian Librarian to the Royal College of Physicians, some of the treasures of the College were displayed, illustrating particularly the life and work of Linacre, Caius, and Harvey, all of whom had Paduan associations. The authorities of the Wellcome Museum also had loaned some pictures illustrating the subject. Sir StClair Thomson, president of the Section of the History of Medicine, before which Dr. Castiglioni had discoursed the previous evening on Morgagni and the School of Anatomy at Padua, introduced the lecturer and welcomed him in fluent Italian. He reminded those present of the frequent allusions to Padua in Shakespeare; of the remark of Johnson, who had no love for foreigners and their ways, that he had a "mind to visit Padua"; and of the saying of Mandell Creighton that he never visited Germany without realizing how ignorant he was, or France without realizing how stupid, or Italy without realizing how lacking in culture. Dr. Castiglioni then gave a brief historical sketch of his university, referring in the first place to the affinity between the Italian renaissance and the English revival of arts and letters, and in particular to the bonds between Padua and humanistic Oxford. During the thirteenth century, he said, the prosperity of Padua increased, despite emperors and Popes, and by the fifteenth, in the most brilliant period of Italian history, when the revival of medicine was contemporaneous with the revival of philosophy and art, Padua had already outranked Bologna in renown. At the end of the sixteenth century came the invention of printing, and the foundation of that vast library which now numbered more than 200,000 volumes. He spoke with reverence of some of the great names of Padua, particularly of Vesalius, the most eminent anatomist of the sixteenth century, and showed an old print of Vesalius engaged in dissecting in the famous anatomical theatre lined with carved oak, which was still standing in perfect preservation. In the hall of the university were the coats of arms of its most illustrious students, and among them, on the colonnade of the medical school, the stemma of William Harvey. At one period there was no noble family in England whose coat of arms was not to be found in the collection. The greatest period of Padua was the end of the sixteenth century, when Galileo was professor of mathematics, and students came from all parts of the world—astronomers to study the secrets of the heavens, physicians to explore the mystery of life, and mathematicians to work out their difficult problems. Even in the eighteenth century its international character remained, as seen from the list of professors about Facciolati. A remarkable list of English students who took their degrees at Padua was in existence, though it was sometimes difficult to recognize the English names because they had been latinized, often in a curious form. He mentioned Linacre, who graduated in Padua as M.D.; John Caius, who studied anatomy under Vesalius, and, returning to Cambridge, founded a college which in its by-laws encouraged its students to travel abroad, visiting the fair schools of Padua and Bologna; and William Harvey, whose diploma, in the keeping of the Royal College of Physicians, expressed the warm satisfaction of Padua at his graduation. He recalled John Evelyn's visit, and quoted from Shakespeare's *Taming of the Shrew*:

> . . . the great desire I had
> To see fair Padua, nursery of arts.
> . . . I have Pisa left,
> And am to Padua come, as he that leaves
> A shallow plash, to plunge him in the deep.

But the most generous tribute was by Thomas Linacre himself, who, on bidding farewell to Italy, built a rough altar of stones on the southern side of the Alps, which he dedicated to the land of his studies as *Sancta mater studiorum*. Dr. Hutchison, in expressing the thanks of the company, said that Dr. Castiglioni had sufficiently shown that Padua was the great Mecca of English post-graduates in the sixteenth and seventeenth centuries. They had had many Meccas since: in the eighteenth and early nineteenth centuries, Paris; in the mid-nineteenth, Edinburgh; later, Vienna and German universities; and then the tide set westwards across the Atlantic. But such was the intellectual activity of modern Italy that he would not be surprised if post-graduates from this country in large numbers once again crossed the Alps to visit the cradle of the culture of Europe.

CENTENARY CELEBRATION AT THE OLD BAILEY

One hundred years ago Parliament passed the Central Criminal Court Act, 1834. The Act came into force at the end of July and the first court almost certainly sat on November 1st. The succeeding century has seen such a radical change in the administration of criminal law that the City Fathers felt this year that the completion of the first hundred years of the Central Criminal Court should not pass unnoticed. Accordingly the Lord Chancellor, in the presence of the Acting Lord Mayor and Sheriffs, the City Lands Committee, the Aldermen and Common Councillors, and a large number of members of the Bar practising at the Old Bailey, unveiled a bronze memorial tablet in the upper Hall of the Court, opposite and in harmony with the Court's War Memorial. The name " Old Bailey " is, of course, that of a street which runs from St. Bartholomew's Hospital down towards the river, joining Ludgate Hill about halfway up. There has been a criminal court near the site of the present one from time immemorial. When William the Conqueror came he found the courts of the City of London, including that at Newgate, in such satisfactory working order that he allowed the City to maintain its jurisdiction intact, and in 1132 Henry I issued a charter giving the citizens power to elect their own judges for the Pleas of the Crown. This duty had devolved upon the Lord Mayor, who continually held the commission of gaol delivery and was made a Justice of Gaol Delivery *ex officio* in 1327. Later the administration of criminal justice gradually fell into the hands of professional lawyers, and at the present time the Lord Mayor exercises a nominal function. He is still the principal commissioner of the Court and takes precedence even of the Lord Chancellor, as an acknowledgement of the autonomy of the City ; but the work is actually performed by a visiting judge of the King's Bench, the Recorder of London, the Common Serjeant, and a Commissioner. At the time the Act was passed the criminal jurisprudence of London was probably at its lowest ebb. The Old Bailey Court was next door to Newgate Prison, the awful conditions of which, both physical and moral, are now a matter of legend. Prisoners were treated with a brutality which to-day is almost incredible, and children were sentenced to be hanged by the neck for trivial thefts from shop windows. The 1834 Act set the Court on a regular footing and extended its jurisdiction beyond London and Middlesex to Greater London, including offences committed on the high seas or elsewhere within the jurisdiction of the Admiralty. Three years later the scope of capital punishment was much restricted, and thirty years after that execution in public was abolished. As the century passed the whole spirit of the Court rapidly improved. Accused persons were treated with more consideration, and the doctrine that a prisoner is innocent until he is proved guilty passed from theory into everyday fact. Sentences became lighter ; the probationary system was introduced with the object of reclaiming offenders ; the Poor Persons Defence Act provided for free legal assistance ; and prisoners were allowed the right to give evidence on their own behalf. The Court of Criminal Appeal was founded as the final guarantee that as far as was humanly possible no innocent person should be convicted. The bad old days finally passed when Newgate was pulled down and the present Central Criminal Court was opened by King Edward in 1907. These changes and others were recounted in detail by the Acting Lord Mayor, the Lord Chancellor, the Lord Chief Justice, and the Attorney-General in the addresses they delivered at the unveiling ceremony. The keynote of all the speeches was the part played in these sweeping reforms by the Bar. As Lord Hewart remarked, the changes cannot be put down to mere tendencies or to the spirit of the age. They were mostly the work of individual lawyers, who deserve eternal credit. He singled out particularly Mr. Justice Avory, one of the founders of the Central Criminal Court Bar Mess in 1891, and one of a group including famous names like those of Harry Poland, Travers Humphreys, Percival Clark, Montague Williams, Ballantine, Harding Gifford, and Forrest Fulton. These men led the way in establishing a tradition of respect for the Bench, loyalty to the client, and unswerving rectitude, which has turned the name " Old Bailey " from one of horror and contempt to one which stands for all that is best in criminal justice, and for a system which, though admittedly imperfect in many respects, commands the admiration of the whole world.

BIOLOGICAL PROPERTIES OF ADRENALINE

When considering the biological properties and importance of adrenaline it is generally of its physiological properties that we think. Thus it is common knowledge that its action simulates that of the sympathetic, and the whole range of functions motivated by adrenaline or adrenaline-like substances, or by the stimulation of the sympathetic, have been classed by Dale under the common head of adrenergic mechanisms in contradistinction to those motivated by choline, choline derivatives, or parasympathetic stimulation. Most of the familiar effects of adrenaline are referable either to vascular phenomena or to biochemical changes. But that adrenaline might have other functions is suggested by a series of experiments carried out during the last few years by A. C. Marie at the Pasteur Institute. The starting-point of these researches was the fact that in many microbial diseases such as diphtheria, tuberculosis, and tetanus, congestion and histological changes are found in the adrenal glands, and the question was considered whether these glands might not exercise some anti-infective function in the defence of the organism. To study this matter by determining the immunity reactions and lethal doses of toxins of the adrenalectomized animal is a method liable to considerable fallacies even if the animal is kept alive by cortical hormone injections, for large amounts of adrenaline are still available in such animals from sources other than the adrenals. Marie, therefore, studied the action of adrenaline on the toxicity of bacterial toxins *in vitro*. Having determined the lethal doses of various toxins when injected into mice, he incubated the toxin with adrenaline and repeated the determination of the lethal dose. It was soon found that the soluble toxins of tetanus and diphtheria as well as the vegetable toxins, abrin, crotin, and ricin, could be " neutralized " by adrenaline. In a recent contribution Marie[1] states that adrenaline has no notable

[1] *Ann. de l'Inst. Pasteur*, May, 1934.

neutralizing power against cobra venom, nor does it affect the bacteriolytic power of bacteriophage (*B. shiga*). In contrast to its action on bacterial toxins, adrenaline does not in general affect the growth of the organisms producing the toxins. A peculiar exception is the pneumococcus, a virulent culture of which can be made apparently innocuous to mice by incubation with adrenaline. Even the virulent brain tissue of mice killed with the pneumococcal culture can be rendered avirulent by treatment with adrenaline: no neutralizing effect was, however, found for the brain tissue of rabies-infected animals nor for that of animals killed with the herpetic virus. Another striking effect was that the blood of mice infected with nagana and that of rats infected with *Tr. lewisi* could be made to lose their infectivity by incubation with adrenaline. Marie does not appear to have obtained any explanation of these peculiar findings, and is content as yet to regard them as direct evidence of an anti-infective function of the chromaffin system. Some chemical basis for these results seems certain. It is a peculiar omission that no mention is made by Marie as to whether the characteristic properties of adrenaline are lost as a result of the incubation with toxins, etc. Nor have any data been given to show whether or not the reaction is monomolecular. The work, however, coming from such a source, merits very careful consideration and repetition.

AUSTRALIAN CANCER CONFERENCE

The report of the fifth Australian Cancer Conference, held at Canberra last April, contains a survey of developments in 1933. It includes statistical reviews, papers on cancer research, records of the steps taken in such matters as pathological classification, post-graduate teaching, and radium therapy; and a discussion of various clinical and administrative problems. Reference is made to the expansion of facilities for treatment, in spite of the shortage of beds. Inefficient *x*-ray apparatus is being replaced by new high-voltage equipment; provision is being made for determination of the quality of the output, and dosimeters installed for measuring in *r* units. Co-operation between clinician and physicist has become increasingly valuable, and the first steps have been taken towards supplying a definite physical service to treatment institutions. It is noted that there has been an increasing preference for the use of radon for treatment under the conditions governing its issue and use in Melbourne. A new radon plant is being developed at Perth, and more radium has been applied to the production of radon at the University of Adelaide. An improved follow-up system of patients is spreading generally, and a review has been made of 11,760 cases of malignant disease of various regions treated by radium or radon combined with other methods during the five years ended June 30th, 1933. Of 3,071 cases of carcinoma of various regions in an operable stage treated during these five years, 1,918 (62 per cent.) patients are alive and free from symptoms. Diplomas in therapeutic radiology and electricity, and in diagnostic radiology, have been provided at the University of Melbourne, in addition to the existing provision for a diploma in radiology at the University of Sydney.

OXFORD AND THE HISTORY OF SCIENCE

Mr. R. T. Gunther has long been known as the historian of science at Oxford. He has published from time to time a valuable series of reprints of the works of Oxford physiologists who made the University famous in the early years of the Royal Society. He has resuscitated and kept alive the Old Ashmolean, which was in imminent danger of death. He has filled the building with scientific apparatus, much of which was stored, broken and covered with dust, in many a College cupboard. He is now keeper of the Lewis Evans collection of scientific instruments, and holds the newly created office of university reader in the history of science. The inaugural lecture[1] which he delivered in the examination schools on October 25th tells of the difficulties and successes he has met with. He pays a well-merited tribute to the work of Dr. Daubeny, who almost alone stood for science in Oxford when it was a lost cause during the period of the Tractarian Movement. He lays stress upon the value of exhibits in a science museum as a means of education, and urges that pieces of scientific apparatus should not be wantonly destroyed. They should be offered to collections already in being, where they can be properly described, cared for, and preserved. The permanent value of the lecture lies in the fact that Mr. Gunther has added an appendix calling attention to the old scientific books in the various College libraries. This will save the inquirer much time, for he can now go to the particular College where he is most likely to find what he is looking for. It would be well if the list could be enlarged and published separately, for too little is known of the contents of College libraries both at Oxford and at Cambridge.

ROYAL SOCIETY AWARDS

The Copley medal of the Royal Society has been awarded to Professor J. S. Haldane, M.D., in recognition of his discoveries in human physiology and of their application to medicine, mining, diving, and engineering. With the King's approval a Royal medal has been awarded to Professor E. D. Adrian, M.D., for his work on the physiology of nerve and its application to the problem of sensation. The Davy medal is awarded to Mr. W. N. Haworth, D.Sc., director of the department of chemistry in the University of Birmingham, for his researches on the molecular structure of carbohydrates; the Darwin medal to Professor A. C. Seward, Sc.D., Master of Downing, in recognition of his work as a palaeobotanist; and the Hughes medal to Professor K. M. G. Siegbahn for his work on long-wave *x* rays. Sir Frederick Gowland Hopkins has been nominated for re-election as President of the Royal Society, and Sir Henry Dale as joint secretary. The names of Professor Adrian, Professor T. R. Elliott, Dr. P. P. Laidlaw, and Sir Charles Martin have been put forward for election as members of council for the ensuing year at the annual general meeting on St. Andrew's Day, November 30th.

As we go to press we regret to announce the sudden death of Dr. Vincent M. Coates of Bath.

[1] *Oxford and the History of Science.* By R. T. Gunther, M.A. London: H. Milford, Oxford University Press. 1934. (2s.)

OPENING OF SAMARITAN FREE HOSPITAL EXTENSION

An extension of the Samaritan Free Hospital in Marylebone Road, London—the hospital always to be associated with the name of Spencer Wells—was opened by Lord Moynihan on November 13th. H.R.H. Princess Arthur of Connaught, the president of the hospital, was present, together with the mayor of St. Marylebone (Alderman John Fettes) and a distinguished company. The extension comprises a general ward, together with fourteen single-bedded private wards and twenty-four nurses' bedrooms; it has cost £27,000, of which about £5,000 has still to be raised. It is also proposed to provide a deep *x*-ray therapy department, and as soon as the further £5,000 necessary for this purpose is forthcoming King Edward's Hospital Fund will be asked for permission to put an additional story on the new building to provide the accommodation.

Dr. A. W. Oxford, who presided over the opening ceremony, said that he first became acquainted with the hospital in 1878, when he was a young curate, and one of his old parishioners in a slum district was admitted for a very large ovarian tumour. Her complaint, when he visited her, was that the night nurse always drank her brandy, and indeed in those far-off days of hospital administration such complaints were not without some basis. One matron more than half a century ago charged her grapes and peaches as "cabbages for the patients." He never forgot the horrified expression of some members of the committee when it was discovered that this matron, while she was supposed to be on duty, had gone to the Oaks. But that chapter was long since ended. The hospital had a great reputation for pioneer work in abdominal surgery, and he always remembered Sir Frederick Treves saying, when he opened the operating theatre in 1907, that at the London Hospital every surgeon asked what the Samaritan was doing, so great was its renown in its particular field. Only two or three years ago Sir George Newman or one of his colleagues at the Ministry had stated that in the special work which that hospital did it had far greater success than any other hospital in London.

Address by Lord Moynihan

Lord Moynihan, in declaring the extension open, said that he had a special reason for pride, because it was in that hospital that Spencer Wells, a student of the Leeds School of Medicine, and for a time articled to a practitioner in North Street, and afterwards to Dr. Sadler of Barnsley, began those intrepid and immortal enterprises that changed the face of surgery, giving it a new orientation, a new territory, a new incentive. Not the least remarkable achievement of Spencer Wells was to have accomplished so much before the advent of Lister; indeed, he declared that the introduction of the antiseptic method made little difference to his results. The explanation was, doubtless, that Spencer Wells was a "dandy," fastidious about the cleanliness of his hands and the purity of his linen, and himself scrubbing his instruments after every operation. It was in the Samaritan that Spencer Wells's first triumphs were won. He did more than relieve the individual patient: he converted surgery from a merely remedial art to a great scientific instrument for research. It was the mark of a great surgeon to turn mistakes to good account, and some of Spencer Wells's mistakes became landmarks in surgical history. When operating for a supposed ovarian cyst he had found no tumour but an ascites due to tuberculous peritonitis. His operation cured the patient and inaugurated the surgical treatment of abdominal tuberculosis. In 1887, when operating upon a girl, jaundiced since birth, for what was thought to be a fibroid tumour of the uterus, he found that the tumour was not pelvic in origin but splenic; he removed the spleen, and the girl recovered, and so began the surgical treatment of haemolytic jaundice. It was a direct result of Spencer Wells's inspiration and teaching that surgeons had been enabled to rewrite, with greater accuracy and with incomparable authority, the clinical truths of visceral medicine.

One further point deserved remembrance. Spencer Wells was a general surgeon who helped to create a specialty. It behoved them all to recognize that specialties would only flourish so long as they remained attached to the main stem of medicine. A gynaecologist, for example, must be trained as a general surgeon, and must remain competent to deal with all conditions he might unexpectedly encounter. In the old days Lord Moynihan remembered being summoned from his own operation theatre to a neighbouring one to deal with a carcinoma of the sigmoid flexure, or a condition of diverticulitis which had suffered erroneous diagnosis. So, too, the gynaecologist should not only be competent to deal with all conditions in his own special territory, but should be able—and always inclined—to remove an appendix or to empty or to remove a calculus-containing gall-bladder. Though the development of specialism was inevitable and highly necessary, regard should always be paid to the Hippocratic ideal of the unity of medicine.

"When I read in the recent report of the Chief Medical Officer to the Ministry of Health that out of a total of 2,618 maternal deaths in 1933 no fewer than 1,016 were due to puerperal sepsis, it seemed obvious that it would be all to the advantage of parturient women that the act of delivery should be surrounded with all the stern but simple ritual of a surgical operation of the first magnitude. It must constantly and conscientiously be borne in the very forefront of our minds that no small proportion of the morbid conditions seen in the gynaecological wards to-day are preventable. In this country vast sums of money are annually expended upon the care of those who, for physical or mental reasons, are never likely to be useful members of the community or to be of service to the State. The time is long overdue when consideration should be given to the culture of the physical condition of the normal youth and child. If this were done the normal girl would be better able to bear the strains and perils of maternity. If also a far sterner training in the technique of antiseptic methods were more strongly insisted upon in the training of obstetric nurses, not only would maternity become safer, but a grievous and unjust burden would be lifted from such hospitals as this."

Dedication by the Bishop of Worcester

After Lord Moynihan's speech the new extension was dedicated by the Bishop of Worcester, and then Lord Manners, treasurer of the hospital, proposed a vote of thanks to Lord Moynihan, which was seconded and supported by Captain Cunningham-Reid, M.P., Mr. Clifford White, the senior surgeon, and the Mayor of St. Marylebone. Captain Cunningham-Reid and the Mayor both expressed the appreciation of the borough and its pride in including such hospitals as the Middlesex at the one end and the Samaritan at the other, with Harley Street in between.

Lord Moynihan, in reply, said that he was rather pained to note the small amount for which this hospital was asking—a trifle of £5,000 or £10,000. Could not something bigger be achieved? There was not a woman in this or in any other civilized country who did not owe a debt to the work which had been done at the Samaritan. Was it out of the question to inaugurate a great national women's fund on its behalf? Could they not fly their flag a little higher? Instead of a paltry £5,000, let them ask for half a million, and make the hospital what it ought to be—the greatest women's hospital in the world. It was a hospital with traditions, but traditions were kept alive, not by the observance of ancient ceremony or mute obedience to outworn creeds; they were kept alive by an active faith, for ever seeking new truths and exploring new paths in conformity with the old spirit. "You have one of the great shrines of surgery here. Let the world know of it, and let every woman here be an ambassadress of this hospital of incomparable fame. Ambroise Paré said: 'It is beautiful and the best of all things, to labour for the relief of human suffering.' Such words as those I would see upon the banners of the women who go out as missionaries of this hospital."

SOUTH AFRICAN MEDICAL CONGRESS

[From our Correspondent in Pretoria]

The Annual Congress of the Medical Association of South Africa (B.M.A.) was held in Pretoria during the week commencing October 1st under the chairmanship of Sir Edward Thornton, Secretary for Public Health and Chief Health Officer for the Union. This is the twenty-eighth medical congress held locally, and the seventh since the profession in South Africa became united into a single association, of which the great bulk of local practitioners are members. Pretoria was in spring garb, and the 240 delegates who attended saw her nearly at her best ; it required another month, however, for her jacaranda-lined streets to be draped in deep blue.

After the induction of the President by Mr. T. Lindsay Sandes, President of the Federal Council of the Medical Association of South Africa (B.M.A.), the visiting members were welcomed by Dr. H. A. Hahn, President of the Northern Transvaal Branch, and by Mr. Ivan Solomon, Mayor of Pretoria, on behalf of the city. Referring to life as that long-drawn-out fight for time, Mr. Solomon said that those who controlled, supervised, and reinforced that fight were among the most important people in the world. As regarded that other section of the community, the patients, he assured Congress that they appreciated to the full the great part the doctors played in the life of the nation. He hoped that in the administrative capital of the Union delegates would find that atmosphere of unhurried stability and gracious dignity which was the special charm of the city.

A National Health Insurance Scheme

The Congress was then formally opened by the Minister of Public Health, the Honourable J. H. Hofmeyr. In his address he foreshadowed the possibility of special legislation in South Africa prohibiting the publication of advertisements for quack medical products. The law, he said, sought to eliminate the quack practitioner, and, to a limited extent, it purported to deal with advertisement of remedies which claimed to achieve what was manifestly impossible. But the law was incomplete in both respects, markedly so in regard to the quack advertisement. He invited the advice of the medical profession on this matter, and also the approval of the Association for the steps he proposed to take in connexion with a scheme of national health insurance. Such a scheme was within measurable distance ; it was, indeed, the only form in which a State medical service was within the range of practical politics in South Africa. One of the prerequisites of its institution was the working out of a detailed basis of co-operation between the State and the medical profession. He was considering the advisability of appointing an *ad hoc* committee on which the profession would be adequately represented. He wished especially to bespeak the sympathetic interest of the Association in the Government's scheme for a Native Health Service, whereby it was seeking to remove a grave reproach at present resting on South Africa. A course of training for native medical aids was being instituted at the South African Native College at Fort Hare. He was glad that the Federal Council of the Association had expressed its approval of the scheme in principle, and he hoped that the profession would help the Government to work it out in detail.

The Presidential Address

Sir Edward Thornton chose as the subject of his address some of the problems in the sphere of preventive medicine. He said that the application of the science of preventive medicine involved in South Africa a number of agencies. The first of these was a Minister, who, subject to the Cabinet and Parliament, determined the policy, prescribed regulations, and controlled expenditure. The country had been fortunate in the four Ministers who had held the portfolio since Union. Each in turn had done all that was possible within the limits of the moneys available to promote the public health. Next came the Department of Public Health, which served as a central co-ordinating body supervising the operations of State medicine initiated by the Minister and Parliament. The provincial administrations again were responsible for general hospitals, the relief of the poor and needy, the medical inspection of school children, and the control of local government, including schemes of sewerage and water supply and sanitary regulations. The division of responsibilities for health matters as between the central and provincial Governments was responsible largely for the fact that advance in public health matters had hitherto been retarded. These responsibilities required to be more clearly defined before any further advance on a large scale was possible.

The real unit of public health control was the local authority. In the case of the large towns, with a few exceptions, that control was reasonably satisfactory, but in the smaller towns and villages, with a few notable exceptions, the control was generally unsatisfactory. This was mainly due to the fact that the protection of health involved some local expenditure. It would have been very much easier to have as the administrative unit for public health control outside the large towns something in the nature of large county councils able to employ and to pay for proper health staffs. He wondered whether it was still too late to bring such a project to fruition in South Africa. If the advance in public health which was so urgently required and which was being so insistently demanded by the public and by the Medical Association was to be assured, if the fight against tuberculosis was to be properly undertaken on a national basis, if the prevention and control of venereal disease were to be organized so as to give lasting results, and if the present excessively high maternal and infant mortality rates were to be materially reduced, it was essential that provision should be made for larger and financially stronger units of local health administration than were available outside the few large towns to-day.

National health itself could not be obtained unless and until the people demanded it. It certainly could not be secured, still less imposed, by Parliament, the Minister or his Department, the Provincial Administrations, or even by local authorities. Health could only be achieved by the people themselves when they understood the necessity for it. The nation did not yet understand the necessity of practising the rules of health, and this Sir Edward attributed to defects in the country's educational systems which provided qualified teachers with little or no knowledge of the laws of health. The future health of the nation depended far less upon housing or medical services than it did upon an educated people. Teachers required a good working knowledge of the facts of growth and functioning of the whole human body ; they should be taught the essentials of biology, physiology, and the factors associated with personal hygiene, and they should be taught how to hand on this information to children.

Lastly, the medical, dental, and nursing professions were the spearheads in the advance to victory in the health campaign. This they could only be if the spears were in line and turned in the right direction. He believed that the right direction in South Africa was towards the rural areas, which had been deplorably neglected in the past. The State's duty was to ensure that the inhabitants of the rural areas of South Africa, black and white, were able at least to secure at a reasonably cheap rate adequate medical and nursing services. In regard to native areas, the provision of trained medical and nursing aids working under an extended district surgeon system and under the various mission stations appeared to be the only practicable means of bringing relief to the people. In conclusion, Sir Edward said he hoped that during his term of office as Secretary for Public Health it might be his good fortune to see some of the disabilities under which the profession laboured removed or adjusted, so that there might be established the most harmonious relations possible between the various Departments of State and local government served by the profession and the organized profession itself, for without the assistance of the latter no real progress in public health was possible.

Plenary Sessions

There were three plenary sessions, at which subjects of general interest were discussed by Congress as a whole. On Monday morning the subject of anaemia was presented as a symposium by members of the medical and veterinary professions. Owing to the existence just outside Pretoria of the large and internationally famous Onderstepoort Veterinary Laboratories, it had been decided to invite the professional officers of this institution to honorary membership of Congress. This gesture was abundantly justified, and the twelve veterinary members proved a valuable asset. The symposium on anaemia was provided by Dr. G. Buchanan of the South African Institute for Medical Research, Johannesburg, and Dr. Gilles de Kock, Deputy Director of Veterinary Services for the Union, the discussion being opened with papers by Dr. L. I. Braun of Johannesburg and Dr. P. Fourie of Onderstepoort.

On Tuesday morning the plenary gathering discussed surgical conditions of the liver, including the gall-bladder; the subject was introduced by Mr. I. W. Brebner, professor of surgery at the University of the Witwatersrand, and the opener of the discussion was Dr. W. J. May of Durban. On Thursday morning the subject for general discussion was infant feeding, introduced by Dr. S. C. Heymann, the opener being Dr. B. G. Melle; both of these members practise paediatrics in Johannesburg.

The Sections

Congress was divided into the same five Sections as at previous meetings: (1) medicine; (2) surgery; (3) gynaecology and obstetrics; (4) public health; and (5) special subjects. Under the last of these a very useful subsection on comparative medicine was added, papers being contributed by three veterinary officers from Onderstepoort. The value of their papers to a medical gathering was evident from the titles—for example, the paper by Dr. G. Steyn on poisonous plants associated with bread poisoning. In this subsection there were two contributions of great local interest, one by Dr. A. Pijper, on typhus-like diseases in South Africa, and another, jointly by Drs. F. W. Fox and L. F. Levy of the South African Institute for Medical Research, on the antiscorbutic value of some South African foodstuffs. The latter was of particular interest, since it followed on a recommendation made last year by the Capetown Congress that the Government should be approached with a view to instituting an inquiry into South African food substances. The Institute for Medical Research subsequently undertook such an inquiry, and this paper by two of its officers represents the first-fruits of its labours.

The contributions in the other Sections offered the usual varied fare, almost every branch of medicine, surgery, and obstetrics being touched on. In the Public Health Section the papers gave a reflex of the trend of public opinion in South Africa on health matters. Professor T. Shaddick Evans, medical officer of health of Capetown, read a paper, which was subsequently discussed at great length, on the housing problem, with special reference to the Slums Act. Dr. S. Annecke's contribution was on malaria control in the Transvaal, and Dr. Melle's on ten years' experience in the infant welfare centres in Johannesburg. In the Subsection of Radiology and Physiotherapy Dr. F. H. Dommisse of Capetown read a paper on the dangers of *x* rays and radio-active bodies, and the methods of protection against them. The grave dangers to workers and the public if such bodies are uncontrolled in South Africa had recently been given prominence, and the Congress Committee had specially asked for a discussion of this subject.

Scientific and Trades Exhibition

The Scientific and Trades Exhibition was opened on Monday morning by the President. Thirteen firms had taken stands: Allen and Hanburys (Africa) Limited; Lennon Limited; South African General Electric Company; Smith and Nephew (Pty.), Limited; B. Owen Jones, Limited; Surgical Instrument Company, Limited; Sive Bros. and Karnovsky, Limited; Westdene Pharmacy; Keating's Pharmacy; Menley and James (Colonial), Limited; Taeuber and Corssen (Pty.), Limited; Schering-Kahlbaum S.A. (Pty.), Limited; and Fassett and Johnson, Limited. This exhibition is worthy of more support by delegates than is usually given at Congresses, because on the fees charged to the various firms depends very largely the financial success of the Congress as a whole.

Entertainments

Plenty of entertainment was as usual provided for visiting delegates and their wives. On Monday, after the official opening, the President's Reception took place at Berea Hall. Visits were provided on the other afternoons to various places of interest, such as the Government Steel Works, the Onderstepoort Laboratory, the Royal Mint, and the Police Depot, where detective dogs are trained. Even lighter fare was provided by a night at the theatre, at the end of which delegates were sustained by tea and cakes, and a night at the Greyhound Racing Ground. On Wednesday afternoon the Administrator of the Transvaal held a garden party at Burgers Park, and on Wednesday night the Mayor of Pretoria gave a Civic Ball. Congress closed with a very successful, at times hilarious, dinner at the Pretoria Club on Friday night.

India

Medical Aid by Women for Indian Women

In 1935 the original Countess of Dufferin's Fund will celebrate its jubilee; it will also be the twenty-fifth year of the Queen's patronage. Known otherwise as the National Association for Supplying Medical Aid by Women to the Women of India, which incorporates also the Women's Medical Service, it has played a noble part in improving the lives of Indian women by carrying the potentialities of modern medicine behind the hitherto rigid veil of the purdah. The report of this organization for 1933 points out that, although in many places purdah has been broken, and women can now call upon the services of medical men, there are still millions of Indian women living in strict purdah, and many more women doctors are needed. There is also the work of preventive medicine, the building up of a new generation of healthy children in the great new India which is foreshadowed. The waste of maternal and infant life continues, as also much unnecessary suffering and invalidism of women, with many a child born only to become blind or crippled. So the work of the Dufferin Fund is far from finished; indeed, further immediate advance is urgently required. In 1933 the Government's grant could not be paid in full, as was the case also in the previous year, necessitating the continuance of a cut in the salaries of those employed by the Fund, though to a less extent. The earthquake havoc in Bihar and Orissa will still further handicap the financial capability of a Province which has already had to default as regards its usual contribution towards the salary of the Women's Medical Service officer at Gaya, as well as rendering the local needs more urgent. The present report contains, as usual, interesting details about the progress made in various hospitals, training, and other activities of the National Association. The wards of the Lady Hardinge Medical College Hospital at New Delhi have been over-full, and the steady increase of gynaecological and midwifery patients has compelled separation of the two units. This will be made possible by converting at a nominal cost part of the out-patients' block, which at present is not in use, into an isolation ward for septic and infectious cases. By this reorganization a large ward with its side rooms will be freed for septic gynaecological cases, leaving the present gynaecological ward for maternity cases. The amount of radium in this institution has been increased so as to bring it up to the requisite optimum dose for a case of uterine cancer. There has been a marked increase in the number of patients

who have been treated successfully with electrotherapy of different kinds. The training departments for nurses and compounders have made satisfactory progress. The Dufferin Hospital at Karachi was in a rather dilapidated condition, and much work on it still remains to be done when funds permit. In the year under review the out-patients' department was rebuilt, but it is necessary to raise the level of the whole compound to that of the roads outside. The two operating theatres have received better equipment, but there is still needed a galvano-cautery and diathermy apparatus, as well as an ultra-violet ray lamp. A septic midwifery block is being constructed, but the present obstetric block urgently needs extension, for there is almost constant congestion in the general wards, and accommodation is lacking for ante-natal or waiting patients, and for such conditions as threatened eclampsia, albuminuria, and osteomalacia. A diploma course in maternity and child welfare has been started in the All-India Institute of Hygiene in Calcutta. The ante-natal clinic at the Dufferin Hospital in this city affords abundant material and excellent teaching, but individual instruction has been hampered by the large number of patients and the limited accommodation in the out-patients' department. There are good facilities for post-graduate experience in advanced midwifery at the Eden Hospital, so far as lectures and bedside clinics are concerned, and practice in the administration of anaesthetics is adequate, but the opportunity for the actual performance of obstetric manipulations is very limited. It is pointed out in the report that practice in midwifery is a most important part of the training. The Eden Hospital is a most suitable place in which to gain experience, and it will be very unfortunate if the necessary changes cannot be made to bring the post-graduate practical work up to a reasonable standard. Lectures and demonstrations in general hygiene, public health chemistry, ante-natal care, and the organization of midwifery services have been proceeding at the All-India Institute of Hygiene and Public Health. The foregoing illustrates some sides of the widespread work of the great scheme that has grown out of the Countess of Dufferin's original fund. Small as well as large hospitals and dispensaries are slowly multiplying in areas where they are most required, and achieve swift popularity as the benefits of modern scientific medicine are realized by the women in backward communities. Despite financial handicaps and occasional local setbacks the work goes on.

Medical Services in Mysore

According to the Government report just issued medical services have shown a considerable expansion in Mysore during the past year. The opening of two new dispensaries brings the number of State medical institutions up to 280. The construction of a new building for the Vani Valas Hospital, and a radiology block at the Victoria Hospital, both in Bangalore, are other important pieces of work, as well as the construction of the Sri Rukminiamina Maternity Hospital at Chikmagatur, a new hospital at Ghimoga, and the addition of maternity and children's wards and ophthalmic blocks to leading hospitals throughout the State. The total number of attendances in the various institutions increased from 3,851,000 to 4,231,000. This does not imply an increase of disease, but rather that the population, in the past doubtful of the value of Western medicine or outside its reach, are now making full use of the new facilities provided. The volume of work in the electrotherapeutic and pathological departments in Bangalore and Mysore also showed a very large increase. Total expenditure has risen to the equivalent of £1,053,000, mainly as the result of larger staffs, as well as medicines and diets needed for the increased number of patients.

Ireland

Medical Treatment of School Children

At a recent meeting of the Clogher Regional Committee a letter from the Ministry was read in which it was stated that the education authority was responsible for providing free medical treatment where absolutely necessary, but that it was generally expected the parents or guardians would bear the cost of such treatment. The secretary remarked that the committee had been complying with the Ministry's regulations in this matter, but it was resolved that all applications for medical treatment should come before the subcommittee of the district in which the applicant resided, and that the nurse should see that the small sum of 2s. 6d. was contributed in every case. While the regional committee mentioned the minimum of 2s. 6d., it was expected that in most cases the parents would meet the full amount.

Anaemia: Yesterday and To-day

Dr. Francis J. O'Donnell read a paper entitled "Anaemia; Yesterday and To-day," at the inaugural meeting of the Biological Society of the Royal College of Physicians and Royal College of Surgeons, which was held in the Examination Hall of the latter body in St. Stephen's Green, Dublin. Dr. O'Donnell stated that in any case of serious anaemia accurate diagnosis and proper treatment and after-care demanded considerable and constant laboratory investigation. These requirements presented in concrete form—but only in one section of medicine—problems of medical service to the community at large and of hospital organization upon which it would be wise for the medical profession in this country to come to specific decisions within the next few years. As concerned hospital work on anaemia, the necessary laboratory investigations required the services of a reasonably well-paid or whole-time pathologist, since no member of a staff could be expected to undertake such a time-consuming work and make his livelihood afterwards. To utilize to the full these paid services a large hospital was essential, and it was apposite to point out that in several British teaching hospitals not merely whole-time pathologists but whole-time directors of the various units had now existed for some years past. The treatment of anaemia illustrated very aptly the problem raised by the rather crisp assertion that under existing conditions two sections of the community could secure proper medical care and treatment—the wealthy, who paid for them, and those who could get them for nothing in a hospital. That generalization remained substantially correct, because the kernel of the problem was not the part-extension of gratuitous medical service, but rather the necessity of placing adequate facilities for proper diagnosis and treatment at the disposal of people with moderate incomes, who were willing to pay for such facilities within the limit of their incomes and social responsibilities. The difficulties of such a question were obvious, but its importance in a country where the middle classes had increased enormously could not be denied. In Great Britain some efforts had been made to meet that need by means of voluntary insurance, a solution with at least considerable possibilities if sufficiently supported. In the same connexion the general practitioner had to be considered. It would be agreed that any system of medical education worthy of the name aimed at producing a doctor alive to the first warnings of disease, and the logical corollary was that the general practitioner should be afforded the assistance of all modern advances in direct relation to all classes of his patients. Proposing a vote of thanks to Dr. O'Donnell, Dr. T. G. Moorhead, Past-President of the

British Medical Association, referred to the time when the extraction of teeth was considered to be a cure for anaemia. Archaeologists of the future, he said, would think that at that period there had been a sudden disappearance of teeth. He was particularly interested to observe that Dr. O'Donnell had referred to the necessity for adequate after-care, and that brought them once again to the importance of establishing in connexion with every hospital a social service unit. He hoped that in a comparatively short time he would have established such a unit in his own hospital. Again and again he had pointed out that hospitals were dealing only with sickness, and were taking no part in its prevention.

England and Wales

Liverpool School of Tropical Medicine

At a special reception at the Liverpool School of Tropical Medicine, on November 6th, the Mary Kingsley medal was presented to Dr. Henry Beeuwkes, Sir George Buchanan, Colonel Sir Rickard Christophers, and Sir Malcolm Watson. Honorary recipients were Miss A. P. Caton and Mrs. Middlemass Hunt. The Duke of York, who is president of the School, sent congratulations to the recipients, and expressed warm wishes for the future success and prosperity of the institution.

Lord Leverhulme, chairman of the School, said that the munificence of Liverpool citizens had brought it into being originally, and that the School had amply repaid the debt by adding lustre to the name of the city in the eyes of the world. Liverpool, he hoped, would continue to lead in tropical medicine, not necessarily in the size of its buildings, but in the importance of the discoveries which it made. In the past the School had rendered it possible for 40,000 persons to live and work in the region of the Panama Canal, where once 90,000 had perished. From its foundation in 1898 until 1914 it had dispatched thirty-two expeditions to West Africa and other tropical areas. At the present time, in its laboratory at Sierra Leone, it continued to deal with the everyday problems of tropical diseases, and by patient research was extending knowledge how to conquer them. The Mary Kingsley medal had been instituted in 1904 to commemorate the services of the niece of Charles Kingsley, the novelist, to the welfare of the West African native. The qualifications for it were service in the prevention and fighting of disease in the Tropics. Professor Warrington Yorke described the contributions made by the six recipients. In the person of Mrs. Middlemass Hunt, he said, the School was publicly acknowledging the services rendered by her late husband, Dr. John Middlemass Hunt, its honorary dean from 1921 until 1932, who had endowed the chair of tropical diseases of Africa. This chair was occupied by the director of the School's research laboratory in Sierra Leone, where members of the staff could gain first-hand experience by working in the actual climatic conditions of an unhealthy part of the Tropics. It had been realized that lack of adequate endowment was likely to endanger the existence of this laboratory. Dr. Middlemass Hunt, by his far-sighted generosity, had taken the first great step towards its proper endowment, and the resulting professorship would constitute a permanent and conspicuous landmark in the development of the School. Miss Caton's father, the late Dr. Richard Caton, had taken a prominent part in the foundation of University College, and in 1902 was appointed to represent the council of the College on the governing body of the School. In 1913 he was elected its vice-chairman, and held this post until his death in 1926. Miss Caton's generosity subsequently had enabled a research fellowship to be founded. She had taken a prominent part in promoting the welfare of people inhabiting tropical countries—particularly India, where she was at present honorary secretary of the Village Welfare Association, Dr. Henry Beeuwkes, a graduate of Johns Hopkins University, after distinguished work in connexion with the Armenian Relief Mission and child welfare in the United States, had studied yellow fever in Brazil and Central America, and had organized and directed the Yellow Fever Commission in West Africa. He had subsequently conducted researches which had ultimately incriminated the *Stegomyia* and other mosquitos as carriers of the ultra-microscopic causative virus, and had elaborated a protective serum. Outstanding features of the work of Sir George Buchanan were his great administrative abilities at home and in conjunction with the Health Organization of the League of Nations. Many far-reaching international agreements, such as the Brussels Convention, had been largely due to his negotiations. Most important of these was the International Sanitary Convention of 1926, which had recast and modernized the whole international system of preventing the spread of small-pox, typhus, cholera, plague, and yellow fever, while the International Sanitary Convention for Aerial Navigation of 1932 had intensified the control of yellow fever and the prevention of its spread, especially to the East. He was still prominent in his double capacity of president of the International Office of Public Health in Paris and vice-president of the Health Committee of the League of Nations. Sir Rickard Christophers, a Liverpool graduate in medicine, had been a member of the classical Malaria Commission of the Royal Society and Colonial Office. With Professor Stephens he had been the first to establish the malarial nature of blackwater fever, and he had given valuable services with regard to increasing knowledge about the great epidemics of India, the transmission of *Piroplasma* through the tick, and the practical study of malaria generally. Sir Malcolm Watson's antimalarial work since Ross's great discoveries had introduced a large variety of preventive measures, and had saved innumerable lives since 1901. He had devised and introduced the valuable subsoil drainage system, and was largely responsible for its present widespread utilization in Malaya. In connexion with the Ross Institute, of which he was director, he had made numerous and most fruitful contributions to the knowledge of malaria and of its pathological effects.

Tuberculosis in Birmingham

Dr. G. B. Dixon, chief clinical tuberculosis officer to the City of Birmingham, reports a decrease in the number of notified cases of all forms of this disease in 1933, the case rate per 1,000 of the population (1.45) being the lowest yet recorded. Statistics are supplied which show that the mortality rate has been falling steadily since 1901, and the present five-year period (1931–5) seems likely to establish a new low record for quinquennial periods. This decrease affects both pulmonary and non-pulmonary forms. Birmingham's case rate of 1.4 per 1,000 compares favourably with other great centres of population, and notably with Liverpool (3.3), Sheffield (3.2), Glasgow (2.1), Manchester (1.8), and Edinburgh and London (1.7). At the end of 1933 there were 7,180 cases of tuberculosis on the current register. Ten nurses are engaged as visitors, and a total of over 30,300 visits were paid in the twelve months. It was discovered that 771 patients out of 1,640 were sharing a bed with some other person, while 502 shared a bedroom, but had a separate bed. Efforts are always made to get a separate bedroom, or at any rate a separate bed, for each patient, but it is noted that lack of accommodation or unwillingness of patients often renders this impossible. In order to promote segregation, ninety-seven persons received bedding from the department on loan or hire purchase, while, in addition, twenty

chalets were sent out to patients who were in a position to use them. There were 5,180 consultations with medical practitioners during the year, and the number of reports received from them in the same period was 1,814. It is noted that 22.6 per cent. of adults were notified in the first instance while their working capacity was unimpaired, whereas 35.9 per cent. only came when totally incapacitated for work. The statistical table devoted to family histories brings out the interesting point that the father is known to have been a sufferer from tuberculosis more frequently than the mother. The large increase in the number of patients attending at the tuberculosis centre in the city is accounted for by the fact that the patients receiving light treatment have been recorded for the first time this year. Of the patients treated during the period 1913 to 1933 about 11,000 had tubercle bacilli in the sputum ; of these, 26.9 per cent. are still alive, 65 per cent. have died, and the condition is unknown in about 8 per cent. During the same period over 12,000 patients whose sputum contained no tubercle bacilli were treated ; of these, 63.5 per cent. are still alive, 19.6 have died, while trace has been lost of the remainder. In all of the municipal sanatoria occupational therapy is prominent, while a scheme for encouraging after-care employment has proved clinically as well as economically successful.

Scotland

Hospital Services for Scotland

In an address to the Edinburgh Women Citizens' Association Dr. R. W. Craig, Scottish Medical Secretary of the British Medical Association, criticized present-day medical services and outlined the features which were desirable in the future. He said that some thirty years ago poverty had been one of the chief claims for admission to hospital, but to-day the gravity or danger of the illness or injury was the criterion for admission. In 1871 the Glasgow Royal Infirmary, which was then the only voluntary general hospital in Glasgow, admitted 2,225 medical cases and 2,421 surgical ones. Thirty years later, in 1901, there were three large voluntary hospitals in the city, and the number of surgical cases had increased to 9,000. In 1924 the medical cases had increased only to 6,000, while the surgical patients numbered 21,000. This development naturally gave rise to new problems in connexion with the accommodation in hospitals. The Departmental Committee on Hospital Services, under the chairmanship of Lord MacKenzie, had recommended that hospital treatment should be entirely dissociated from the Poor Law, and effect had been given to this in the Local Government (Scotland) Act of 1929. The voluntary hospitals had done splendid work for the country, and it was remarkable that, faced as they had recently been with the steadily increasing demands upon their facilities, they had been able to maintain their functions at a high level of efficiency. That had been possible because the community realized that such essential services must be subsidized at all costs. People who had given serious consideration to the hospital problem felt that the continuance of the voluntary system was in the public interest. It was evident that hospitals would be affected by any development which took place in the general medical service of the country. It was safe to say that in the near future there would be a considerable increase in the provision of organized medical services for great sections of the community. At present there was a superfluity in one direction and a deficiency in another, with very little co-ordination between certain branches. In the sphere of family practice there was overlapping, which was wasteful and sometimes chaotic ; it had often been found that in the same family medical care was being provided from ante-natal clinics, child welfare clinics, the school medical service, the public assistance service, hospitals, and the general practitioner. The British Medical Association strongly believed that the large expenditure of funds involved in these services could be more usefully employed if it were diverted to the provision of medical attention by a system based on the family as a unit instead of by a system which regarded the family as a loose arrangement of unrelated components. If a general and complete medical service were readily available to all members of the family it would lessen the need for hospital beds, since more cases could be treated at home than at present, and existing beds would be more efficiently used. It would also increase the efficiency of the family doctor if opportunities were afforded him in hospital for the treatment of those of his patients who did not require more than general practitioner treatment, while at the same time the services of specialists would be immediately available. The British Medical Association was of the opinion that an arrangement of this nature in every area would be of great value ; it would not necessarily require the establishment of new hospitals, for the provision might be made by setting aside a number of beds in existing institutions.

Central Midwives Board for Scotland

The examinations of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, have just concluded with the following results. Out of 170 candidates who appeared for the examination 155 passed. Of the successful ones twenty-nine were trained at the Royal Maternity Hospital and eighteen at the Elsie Inglis Memorial Hospital, Edinburgh ; forty-six at the Royal Maternity Hospital, Glasgow ; eleven at Stobhill General Hospital ; two at the Eastern District Hospital ; two at the Western District Hospital ; seven at Govan Maternity Hospital ; nine at Bellshill Maternity Hospital ; four at Barshaw Maternity Hospital, Paisley ; one at Motherwell Maternity Hospital ; seven at the Maternity Hospital, Aberdeen ; fourteen at the Maternity Department, Royal Infirmary, Dundee ; two at the Maternity Department, Royal Infirmary, Perth ; and three at the Royal Infirmary, Stirling.

Reports of Societies

"SOME PERSONAL PREJUDICES"

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on October 12th, with Sir William Smyly in the chair, the president of the Section, Dr. T. M. Healy, read as his presidential address a paper entitled "Some Personal Prejudices."

Dr. Healy gave an analysis of the 13,347 intern and extern maternity cases occurring in the first five years of his mastership of the Coombe Hospital. The intern morbidity rate—the B.M.A. standard—for the period was 3.6 per cent., and the case mortality rate in puerperal sepsis was 10 per cent. He gave figures showing that operative cases ran a risk of sepsis five times greater than that of cases delivered spontaneously, yet the case mortality from sepsis was only 1.5 per cent. higher in operative deliveries. He was in favour of induction of premature labour as a method of preventing difficulty from disproportion, and attributed the fact that he was unable to show a decrease in his incidence of Caesarean section to the reluctance of the patients to enter hospital sufficiently early in pregnancy.

Sir William Smyly said that he still believed that "meddlesome midwifery" was bad. It was difficult to compare results obtained in an intern and extern department, because the bad cases were generally sent in to

the hospital, so internal statistics were bound to be worse than those of an extern department. He would like to see added to the induction column in the statistics shown by Dr. Healy the number of babies which were born alive but died before they left hospital. He thought that one of the disadvantages of induction was that premature babies were more likely to die within a few weeks of birth than babies who were not premature.

The MASTER OF THE ROTUNDA said that at his hospital he had tried as far as possible to accomplish vaginal in preference to abdominal delivery. He felt that ante-natal care had now gone almost too far, and statistics showed that it had led to increased operative midwifery, which he felt was a thing to be avoided. He had no doubt that the increase in induction of labour had definitely led to an increase in the performance of Caesarean section. Induction of labour by puncture of the membranes was both a blessing and a curse. It was a curse when one attempted to bring a borderline case into labour. He thought the great difficulty was that unless the head fitted down on the lower uterine segment no method of induction would bring the woman into labour in a reasonable time and give the baby a chance of living. Cases in which the head did not fit well into the pelvis should be left to deliver themselves, and Caesarean section should only be done if it was absolutely necessary. He felt that the proper way of inducing labour had not yet been found out. Referring to the question of external version in breech presentations, he said that the modern tendency was probably to interfere too much. He did not agree with the method of antisepsis in the vagina before delivery, and thought that the less done in the vagina before delivery the better.

Dr. J. S. QUIN disagreed with the idea that an increase of Caesarean sections was due to induction of labour, and thought that Dr. Healy's statistics showed induction to have fewer disadvantages than Dr. Davidson was inclined to believe. He would be interested to hear the number of cases in which perforation as a means of delivery was adopted.

Dr. NINIAN FALKINER said that although induction of labour was becoming somewhat unpopular, he felt that if the results from another type of treatment proved to be worse induction would have to be resorted to. He believed that induction was followed by a higher rate of Caesarean sections than if induction was left out altogether in cases of disproportion. In cases where the head was high and labour was induced by bougies and the stomach tube, the results might be better than in cases where labour was induced by puncture of the membranes. Dr. F. DOYLE thought that puncture of the membranes was a very old method which had been discarded and had now come into fashion again. He felt that the great difficulty was in connexion with primiparae, as it was so hard to know what they could do regarding labour. He was inclined to take the view that it was better to let them go on with labour and not resort to induction, as subjecting a primipara to Caesarean section impaired her attainment of subsequent labours. Dr. R. M. CORBET said he was often impressed by cases which were brought into hospital with disproportion in which the baby was dead, perforation was done, and the head was found on the perineum a short time later. There were many cases in which disproportion was not due to the size of the head but to its alignment. This did not include all cases, and did not explain why uterine inertia was so very much more common in the primigravida. He liked the operation of external version in an easy case, but if it was difficult he was inclined to let the case alone. He did not like delivering a primipara's breech presentation, and avoided it as much as possible. He saw no objection to performing external version early, but in elderly multiparae he thought that this operation was perhaps unwise. In some of these cases he had had to do an internal version to get the case back to a breech again. He was against doing internal version for disproportion in primigravidae, and felt that the more induction of labour was done the less one tended to be dogmatic about it. He personally used induction a good deal, and had very rarely been sorry he had used it, while he had come across many cases in which delivery was very difficult, and he had felt that if he had induced the patient sooner delivery would have been very much easier.

Dr. HEALY, in reply, said he thought that better results could be obtained when it was possible to allow patients to have spontaneous deliveries. The neo-natal deaths were practically the same after inductions and after spontaneous deliveries. He could not see any other means of avoiding Caesarean section beyond induction of labour. He hoped that when more was known about the proper time for induction better results would be obtained. He thought that external version when easy was generally a correct procedure. He mentioned one case he had seen in which the placenta became completely detached and the patient bled to death in about eight minutes' time, but he did not think accidents such as this should stop the performance of external version. He referred to a recent case of induction of labour in which there was a medium degree of flattened pelvis. The woman had had induction on three former occasions, and had had one baby by spontaneous labour. This baby, which was born spontaneously in the district, was nearly two pounds heavier than any of the babies which had been inducted in the hospital. He believed that the difficulty was in knowing the proper time to induce labour. During the present year the attitude in the hospital towards induction of labour had not changed, but the number of cases suitable for induction was less than in the previous year. There was no falling off in the number of perforations as a result of either the increased number of Caesarean sections or the increased number of inductions. In New York, when statistics were compiled, induction was not regarded at all as an operation, and lower segment sections were done on all patients who were in labour, and classical sections on the remainder. Referring to the stillbirth rate with sections, forceps, and inductions, he said that the rate was best with sections and worst with forceps, inductions coming between the two. He had yet to see a case of inertia with a fixed head. In all the cases he saw the head was above the brim.

GEE'S DISEASE

A meeting of the Medical Section of the Royal Academy of Medicine in Ireland was held on November 2nd, with the president, Dr. V. M. SYNGE, in the chair.

Professor HENRY MOORE, in collaboration with Drs. W. R. O'FARRELL, J. A. GERAGHTY, M. MORIARTY, and J. MURRAY HAYDEN, read a paper on Gee's (coeliac) disease in adults. After a consideration of the literature, of the work of Hess Thaysen in Denmark, and of Bennett, Hunter, and Vaughan in England, eight cases of Gee's disease in adults were described. In seven of them (one not tested), Professor Moore said, there was a high percentage of total fat in the stools; the lowest fat percentage was 32, and the highest was 51.4 (the average normal being 18). In all patients the amount of split fat and the amount of nitrogen in the stools was normal, but some had a high soap-fat content. All had a history of diarrhoea at one time or another, two had macrocytic anaemia without achlorhydria, five had hypochromic anaemia, five had hypocalcaemia, two had tetany, and all save one had decalcification of bones. In three cases the skeletal changes were so advanced as to cause multiple pathological fractures. Seven cases (one not tested) had a low blood sugar curve with the glucose-tolerance test, and the blood urea was low in five. Three had achlorhydria. Blood cholesterol was normal or subnormal. One case had hyperthyroidism and in five there was some degree of infantilism. One patient had ununited epiphyses at 26 years of age, and another a similar condition at the age of 20; the former patient grew four inches between the ages of 23 and 26. In three cases there was a decrease in height. Lens opacities were present in two out of seven (tested by Dr. D. O'Donoghue). The macrocytic anaemia yielded to treatment by liver extract and marmite, and the hypochromic anaemia to iron by mouth in all cases. Calcium and vitamin D in large doses, with a fat-low diet, relieved tetany. Hydrochloric acid by mouth was used for achlorhydria. The fractures united in the three fracture cases, and the calcium content of

the bones increased in all those showing bone decalcification save one. One patient died, but in six others the results of treatment were considered satisfactory, one case being too recent to form a judgement. The terms "non-tropical sprue" and "idiopathic steatorrhoea," used to describe the disease, were unsatisfactory. Gee was aware that the malady occurred in adults. Therefore, honour being given where due, the disease should be known as "Gee's disease."

Dr. E. HARVEY referred to the results obtained by McCarrison in experimental vitamin B deficiency. Rabbits put on a diet of rice developed many of the symptoms of coeliac disease. When butter was added to the diet the condition, instead of improving, grew worse, and the diarrhoea changed to steatorrhoea. He asked if the question of vitamin B deficiency had been considered in Professor Moore's cases. Dr. D. PRICE asked if the non-union of the epiphyses was the result of infantile coeliac disease which had remained untreated. Dr. GEOFFREY THOMPSON said that in such a complex syndrome as Gee's disease there was almost certainly some fundamental underlying factor common to all cases and from which all the features of the syndrome resulted. The probable primary fault was defective fat absorption, resulting in the fixation of calcium in the intestinal contents. From this would follow the defective calcium absorption and the resulting abnormal calcium metabolism producing the clinical features of bone disease and tetany. He drew attention to two peculiarities of fat absorption—namely, the fact that the molecule of fatty acid was very large compared with molecules of hexose or amino-acid in the case of carbohydrate or protein absorption, and, secondly, the fact that fat was largely absorbed by the lymphatic vessels, whereas the other foodstuffs were absorbed by the blood. He suggested the estimation of changes in the blood fat following fat meals as a method of throwing light on the condition. Dr. W. A. MOORE asked why, in a case of his, there was no sign of bone decalcification, in spite of steatorrhoea of six years' duration. There was a typical blood picture of pernicious anaemia, but no achlorhydria. Dr. ALAN THOMPSON wanted to know if any examination of the faeces had been made for bile salts, and if the cases showing macrocytic anaemia had shown any evidence of central nervous system changes.

GROWTH OF B. COLI IN WATER

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on October 19th, with the president, Dr. W. R. O'FARRELL, in the chair, Professor J. W. BIGGER read a paper on "The Growth of Coliform Bacilli in Water."

Professor Bigger said that the organism with which most of the work was done was almost a typical *B. coli*. This organism grew in autoclaved Vartry water in flasks which were kept at 37° C., the counts rising from an initial level of from 20 to 2,000 per c.cm. up to almost half a million per c.cm. Periods of growth with high counts alternated with periods in which the count fell to 0 per c.cm. At 22° C. the bacillus grew and remained alive for more than 200 days. It was shown that the growth of the bacillus did not occur in distilled water, but did in a solution in distilled water of the dry residue obtained by evaporating tap-water. A number of other coliform bacilli of various types also grew in tap-water, and the bacillus chiefly used was capable of growth in water obtained from Belfast and Bohernabreena as well as in Vartry water. Professor Bigger pointed out the importance of the phenomenon in connexion with the bacteriological examination of water supplies.

The PRESIDENT said that it was very interesting to note the length of time that bacilli lived in water, and the fact that in some waters bacilli grew and in others they did not seemed to show that there was some solid deposit present in the water in which they did grow. He asked whether, if water was left lying in a pipe for a long time, there would be any increase in the number of bacilli in it which would be formed by the water lying in the pipe, and if that water would show similar peaks to those shown in the experiments carried out by Professor Bigger.

Professor W. D. O'KELLY referred to some experiments which had been carried out some years ago by Dr. Houston and Dr. Coplans. Dr. Houston said that if water was stored for a certain length of time the bacilli present in it died, while Dr. Coplans said they did not. At the end of the experiments no satisfactory conclusion was arrived at. He referred to the view of the utilization of atmospheric nitrogen, and also to the "cannibalistic" view, and asked which Professor Bigger considered the more satisfactory. He also asked if there was any difference in the growth of the organisms in bottles and in flasks.

Professor T. T. O'FARRELL drew attention to the reports of the Metropolitan Water Board, recording the experiments of Dr. Houston, in which it was proved that artificially grown bacilli had a greater vitality than those obtained freshly from carriers. The fact that Professor Bigger had used stock laboratory strains might have some influence upon the experiments. As to the peculiar diminution and subsequent increase in the number of organisms he suggested the following considerations: (1) In the primary growth an inhibitory substance was produced causing the diminution, but the breaking down of the bacilli offered a new pabulum and hence the increase. (2) That the culture used contained two varieties of organisms, analogous to "rough" and "smooth," one type being reduced and the other enhanced. (3) A change might have taken place in the reaction of the water. Dr. W. P. O'CALLAGHAN said that the growth curves obtained in these experiments by Professor Bigger were of the order one was accustomed to find in these circumstances—that is, microbial growth in culture media. He asked if the flask cultures had at any stage been investigated for evidence of a lytic principle, since uniform results had not been obtained with the several culture strains in different water media, and also the frequencies of the total counts and the time intervals of the cultural counts where the graph values read zero. Dr. ALAN THOMPSON said it would be interesting to take a flask at peak of growth and the same flask at zero, and see if the amount of substance of inorganic body and bacterial body was the same. He mentioned the possibility that the microbes might be growing on water and gas, and turning into inorganic solubles. Dr. J. MACGRATH asked how Professor Bigger made sure that the organism he was dealing with was not a mixture of different types. He referred to the possibility of diluting Vartry water with different amounts of ordinary water, and said he thought the organisms reached a certain stable point beyond which they did not increase. He asked if the speaker had tried adding twice the amount of residue to a flask, and said he thought this might bring the top peak higher. Dr. G. C. DOCKERAY suggested that if nitrogen estimations were done early and again at a later date it might be a help.

Professor BIGGER, in reply, said that he had no data which would lead him to be in favour of the atmospheric nitrogen view or the cannibalistic view, but he thought that once the first step was taken the cannibalistic view might be quite a possibility. There was no difference at all in the growth of the organisms in the bottles or in flasks. His impression was that water which he had obtained from Belfast was much better for growth than Vartry water was. He had had no failures in the secondary or tertiary samples.

Mr. J. F. Jennings, F.R.C.S., who died on July 5th, left estate of the gross value of £47,660, with net personalty £45,790. Subject to a legacy of £500 to his wife, he left the whole property in trust for her for life, and then to St. Bartholomew's Hospital for the endowment of beds or the foundation of scholarships for medical students.—Mrs. Elizabeth Fountaine of Watford bequeathed £2,000 to Guy's Hospital, the income to be applied to the Students' Exhibition Fund in such a way as to commemorate her late husband, Dr. David Fountaine, who was a medical student there.—Mr. W. M. Barnes of Malvern bequeathed a sum not exceeding £7,000 to his trustees, to be devoted to such medical research work or religious institutions as they may think fit.

CORRESPONDENCE

Dilating the Cervix in Placenta Praevia

SIR,—I was horrified to read in your issue of November 10th (p. 884) the suggestion that the cervix should be dilated in placenta praevia. Dr. W. J. Young considers that " over a score " of cases is a considerable experience. Such a letter as his is bound to be responsible for an increase in the maternal death rate if the treatment he suggests is carried out by other practitioners.

The cervix should never be dilated for placenta praevia, even though Dr. Young has " got away " with it in over a score of cases.—I am, etc.,

BETHEL SOLOMONS, M.D., F.A.C.S.(Hon.).

Dublin, Nov. 10th.

Mortality from Haematemesis in Peptic Ulcer

SIR,—I have read with much interest the valuable statistical review of haematemesis in the *Journal* of November 10th (p. 858) by Dr. Lloyd Davies and Mr. R. W. Nevin. While they compare their series with those dealing specifically with the mortality from haematemesis in peptic ulcer they have not divided the cases into aetiological groups, for reasons which appear to them to be adequate. It must be pointed out that an error is thereby introduced, and that correction of the figures for fatal cases, at any rate, is possible if post-mortem examinations are carried out. It is by no means clear what they mean by their mortality percentage. Is it the mortality from haematemesis from all causes, or is it the percentage arrived at after excluding cases proved to have a disease other than peptic ulcer? In any case comparison with the series quoted by the writers seems hardly justifiable.

While agreeing with the writers that " when considering the prognosis from any disease it is necessary to carry out a statistical investigation of a large number of cases," I can hardly condone their omission of my own series which was recorded in the *Lancet* (1927, ii, 168, and 1932, ii, 720). In this analysis every case admitted to the medical wards of the General Hospital, Birmingham, for the treatment of haematemesis as the leading symptom between the years 1902 and 1931 was included—a total of 649 cases. Seventy-one cases were discarded as being due to causes other than peptic ulcer, and the mortality was calculated for a total of 578 cases of peptic ulcer. The results may be summarized as follows:

Number of Cases	Deaths from Haematemesis	Mortality
240 males	39	16.2%
338 females	23	6.8%
Total = 578	62	10.7%

At the time of my original analysis in 1927 haematemesis in peptic ulcer was not regarded very seriously, and my figures excited some comment but little expressed agreement ; subsequent reviews in this country have confirmed my suggestions as to the gravity of the condition, and indeed have shown the experience in London to be even worse than that in Birmingham.

Apart altogether from the establishment of haematemesis in peptic ulcer as a very grave complication, interesting points arise which give food for thought. I was able to show that at every three-year period since 1906 the mortality in women was less than half of that in men. I feel tempted to think that the explanation of one of the ward sisters contains much wisdom. She had herself noticed that men did not do so well as women, and attributed it to the temperamental differences between the sexes: while a female patient will lie quietly and contentedly in bed, the male patient tends to be fidgety and impatient at his enforced inactivity, restless in both mind and body.

In 1927 I drew attention in the Birmingham figures to a steadily rising percentage mortality in both sexes since 1902. The cause of this must remain a matter of speculation, as so many factors are involved ; but there appeared to be one marked difference between the treatment of cases, both from a study of treatment sheets and from a survey of the standard textbooks of the day, in the early years of the century and that in more recent years—I allude to the use of morphine. Morphine was apparently reserved for the relief of pain, whereas it is now nearly always given. There are theoretical objections to its use—perhaps not founded on unimpeachable physiological premisses—in that it tends to relax the stomach and to abolish that rugosity which should surely aid in blood-clotting over the bleeding spot, and that it may produce pylorospasm in some persons. I advised caution in its use without actually incriminating it as the main factor in the rising death rate. My doubts as to the advisability of giving morphine are not shared by many, and its administration is still advocated, and by some in large doses and combined with hyoscine so as to cause practically a mild narcosis comparable to " twilight sleep."

It would be of value to have an analysis of the mortality from haematemesis in peptic ulcer with a careful study of the amount of morphine and other narcotics employed in each case: the advocacy of the " semi-narcosis " treatment of haematemesis by certain of the London physicians, and the considerably heavier mortality in the various series published from some of the London hospitals, may have a demonstrable correlation.—I am, etc.,

ERNEST BULMER.

General Hospital, Birmingham, Nov. 10th.

Local Treatment of Coryza

SIR,—It was with great pleasure that I read Dr. W. C. Spackman's letter in the *Journal* of November 3rd (p. 835), for he has drawn attention to one of the most curious inconsistencies of medical practice.

In acute inflammatory conditions one of the main objects of treatment should be to produce a *hyperaemia* of the affected part, so as to reinforce the defences of the body and defeat the invading organisms. The hot stupe, of course, is the time-honoured method of accomplishing this, but other means, such as Bier's passive hyperaemia, show the end in view. But in dealing with acute inflammation of the nasal mucosa the ordinary prescriptions for " oils, inhalations, sprays, pastes, and snuffs " which contain adrenaline, ephedrine, menthol, or other vaso-constricting agent have precisely the opposite effect. An *anaemia* of the mucous membrane is produced.

The reason for the popularity of such treatments is clear. Vaso-constriction causes shrinkage of the turbinals, which are congested in an effort to fight the infection; this makes the patient considerably more comfortable for the moment, and relief of the outstanding symptoms is mistaken for cure of the disease. Nasal respiration is restored and secretion is diminished—but at what a price! The vaso-constricting agent causes the retirement of the home forces and leaves the invading organisms in possession of the field. Apart from the increased likelihood of bronchitis, sinusitis, etc., there is grave danger of the infection settling down and becoming chronic, instead of spending itself in one battle royal. I am convinced that

the prevalence of chronic nasal infections is due in no small measure to the use of such drugs during acute coryzas.

The medical profession is not entirely responsible for this, for the advertisements of commercial firms have made the public "catarrh-conscious," and have taught it to use a "cold cure" or "catarrh remedy" in acute coryza. But the medical profession has so far failed to condemn such measures with the unanimity with which it ought, and by silence on the subject it seems to have given its consent. It is to be hoped that Dr. Spackman's letter may awaken the medical conscience and be the start of a reorientation of opinion on this very important subject.—I am, etc.,

Dublin, Nov. 8th. R. R. WOODS.

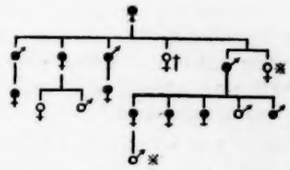
SIR,—The recent correspondence on this subject suggests to my mind that the therapeutic of the common cold threatens to rival in complication that of asthma. My experience, both in my own person and in my practice, convinces me that the ingestion of alkalis in considerable quantities diminishes the symptoms, cuts short the illness, and prevents complications such as Eustachian catarrh and tonsillitis. The treatment is an old one, but in my opinion the dosage was inadequate. Common colds repeatedly were followed in my own case by such complications until I adopted this alkaline treatment, which amounts to the ingestion of a teaspoonful of sodium bicarbonate dissolved in a tumbler of water, a like dose being kept at the bedside for sipping at night. This practice was based upon the idea that my own alkalinity was diminished, and results appear to support this. It is well known that the taking of a meal reduces the symptoms of a cold, as I think, by raising the alkaline tide, thanks to acid gastric secretion. And it is significant that recent research has shown that asthmatic attacks are associated with reduction of normal alkalinity. I make the suggestion that the alkaline treatment should be given a more general trial before resort is had to the many remedies enumerated in the recent correspondence.—I am, etc.,

London, W.1, Nov. 10th. BERNARD E. POTTER.

Female "Bleeders"

SIR,—I should like to thank your three correspondents (October 20th, p. 744) who made comments on my letter of October 13th (p. 700). I must apologize for the fact that the information I gave, though quite correct, has proved incomplete. The father of the Winsford branch of the family was taken by relatives when his mother died—that is, when a day old—and has had practically nothing to do with his brothers and sisters since. In view of the interest shown and the absence of mention in your columns of any further female bleeders, I have done my utmost to obtain the fullest information I could about this family. With much difficulty I persuaded the mother to visit, at my expense, all her husband's known relations and find out all she could about them and the matter of bleeding. Unfortunately, the family are rather shy about the matter, and asked particularly that I should not make this investigation personally. She visited three different localities for the purpose, and seems to have taken an intelligent interest in the matter; so I hope that the revised family tree I give below is not merely correct but complete. It provides somewhat more material for those interested in the laws of inheritance, and suggests that the coming generation should provide a very pretty object-lesson in Mendelism.

From the inquiries made there seems no doubt that the grandmother was a true bleeder—scratches, etc., bleeding profusely and for a long time, as in the case of her granddaughters. The enlarged tree shows that the mother is not a female carrier, for it is inconceivable that three brothers should each marry female carriers, and the parents, grandparents, and numerous relations of the mother have lived in this town and are known to be normal. While the grandmother lived at Barnton near Northwich, I have not been able to find out from what part of the country she originally came, for it would have been interesting to inquire whether any collateral families exist with a similar defect.



* Unknown. † Nine children, no bleeders among them.

As regards the actual defect itself, I have, as suggested by Dr. Garland, examined those members I could, and only in one did I find anything suggestive—a minute bright red spot just anterior to the right tonsil. Whether this is sufficient to clinch the diagnosis of hereditary telangiectasia I do not know, but I should be very interested to hear, especially if the diagnosis will lead to any effective treatment.—I am, etc.,

Winsford, Cheshire, Nov. 3rd. W. N. LEAK, M.D.

Differential Diagnosis of Chronic Rheumatic Disease

SIR,—Dr. H. Warren Crowe's communications with regard to his activities at the Charterhouse Clinic are always of interest. In the letter published in the *Journal* of November 10th (p. 884) he announces, however, a new pathognomonic sign for differentiating early osteo-arthritis from other forms of arthritis. I would like respectfully to suggest to him that he is mistaken in believing this sign to be either new or reliable.—I am, etc.,

London, W.1, Nov. 12th. W. S. C. COPEMAN.

X-Ray Examination of Empyema Cavities

SIR,—In the admirably lucid and concise account of his method of examining empyema cavities which Mr. Denis Browne gives in the *Journal* of November 3rd (p. 807) it would appear that one consideration is omitted—namely, the condition of the underlying lung.

There will be general agreement with his conclusions as to the nature of the process of cure by adhesion of the two pleural surfaces, and failure of cure due to thickening and stiffening of the walls of the cavity. It seems to me, however, that the latter condition, while in the majority of cases arising as he suggests, may in a minority be due, not to too early closure of the wound and subsequent filling of the cavity with discharge, but to too prolonged drainage, the cavity being filled with air through the wound, and thus kept open until its walls thicken, and no cure is possible save by the process advocated. I would put forward the suggestion that the "impressively quick cures" to which Mr. Browne refers occur in those cases where the discharge rapidly ceases at a time when the walls of the cavity are still pliable and the underlying lung expansile, that allowing the wound to close at this juncture enables the lung underneath to expand so that the visceral and parietal layers of pleura adhere, thus constituting cure according to the standard laid down.

Further, I believe that cases in which this is likely to occur may be identified by ordinary clinical and radiological examination of the lung. Surely it is better to attempt to assess the possibility of rapid cure rather than apply the same treatment to all cases on the ground that it is for the benefit of the majority.—I am, etc.,

Brighton, Nov. 11th. A. DUFF, M.D., F.R.C.S.Ed.

Ingrowing Toe-nail

SIR,—In the *Journal* of August 11th (p. 262) you reviewed in an annotation the results of various operations for ingrowing toe-nail. Many years ago I pointed out that the nail was normal and that the term "ingrowing nail" was a misnomer.

To cure it quickly and effectively remove the soft tissues that are being pushed into the nail. Remove a flap of skin only from the dorsal surface of the lateral border. Insert a scalpel just beyond the posterior extremity of the lateral edge of the nail; hold it vertically and cut away the whole of the lateral border, including the skin and soft tissues of the plantar portion; cover the raw surface with the skin flap. Raise the lateral edge of the nail and keep it above the level of the skin flap by a piece of lint for a few days. Any failure to cure would be due to insufficient removal of lateral border. To cure early cases insert pledgets of cotton-wool very gradually under lateral border so as to raise it away from the injured soft tissues. This action, together with proper footwear, will suffice to cure most early cases.

—I am, etc.,

W. KENT HUGHES, M.B.LOND., F.R.A.C.S.

Melbourne, Sept. 27th.

Position of Patient for Tonsillectomy

SIR,—During a recent visit to Vienna I noticed that it was the routine practice in Professor Neumann's clinic for the patient to be placed in the upright position for the operation of removal of tonsils and adenoids, both for general and for local anaesthesia. In Great Britain the horizontal position with extended head is commonly used when a general anaesthetic is given, but a vertical position for the operation under local anaesthesia. The vertical position is definitely uncomfortable for the surgeon, and I fail to see any advantage for the patient.

It has been my practice for the last three or four years to have the patient in the horizontal position, and to use a Davis-Boyle gag for the operation under local anaesthesia. I have not found the patient complain of the Davis-Boyle gag, nor of the position; in fact, it is preferred by the patient, as it tends to avoid sensations of faintness.

The following points are in favour of the horizontal position: (1) The blood and saliva flow back by gravity into the nasopharynx, where it forms a pool, which can be kept clear by means of suction through a catheter passed through the nasal passage. (2) The danger of blood clot, or small fragments of tonsil and adenoid tissue, getting into the lower respiratory tract is obviated, in that such fragments cannot but fall back downwards into the nasopharynx. (3) The head of the patient is very much more readily controlled, as it cannot be pulled backwards away from the surgeon if the patient experiences unpleasant sensations.

I should like to know why the vertical position is chosen by so many surgeons, and whether they think there are important contraindications to the horizontal position. I would suggest that the greater comfort of the surgeon is of material advantage to the patient.—I am, etc.,

S. W. GRIMWADE,

London, N.11, Nov. 5th. Surgeon Captain R.N. (ret.).

Tobacco Angina

SIR,—Much has been written concerning coronary occlusion, but no attempt seems to have been made to classify this disease in separate groups. I should like to indicate one group which I consider forms a definite syndrome. (1) Anginal pain on exertion; (2) a history of excessive tobacco smoking; and (3) terminal attacks of coronary occlusion, frequently associated with glycosuria and acidosis. I would suggest that the pathology of the condition is similar to that encountered in cases of obliterative arteritis in the legs of heavy smokers associated with intermittent claudication—namely, a direct action of nicotine upon the blood vessels supplying the heart muscle and pancreas.—I am, etc.,

London, W.1, Nov. 6th. JOHN H. HANNAN, M.D.

Use of Fascia Lata Sutures

SIR,—Though he makes no reference to it, Mr. W. S. Brindle will find the description of a simple fascia cutter of my invention in the *Journal* of August 1st, 1931 (p. 194).

This instrument, which was evolved gradually prior to publication, gave, and continues to give, me good satisfaction. In it is incorporated the very feature the lack of which Mr. Brindle points out in the Meath instrument—namely, in subcutaneous fasciotomy, the liberation of adhesions normally present between the skin and fascia. My fasciotome has a quadrilateral fenestration at its cutting end, and its upper flat margin strips the skin off the surface of the fascia. This dispenses with the need of a second part to the instrument. Further simplification is also possible with it, as the second incision advised by Mr. Brindle can usually be dispensed with as follows. If, as the cutting comes to an end, the handle (made at a slight angle to the shaft) is depressed against the thigh and pushed on with a sudden jerk, the upper end of the strip usually yields and is cut free without the need for an upper incision. In regard to late results I find, on examining many of my cases later, no complaint of disability.—I am, etc.,

Bristol, Nov. 5th. A. WILFRID ADAMS.

The Pre-asthmatic Phase

SIR,—In a communication of mine to the *Journal* (July 28th, 1934, p. 192) I referred to a probable pre-asthmatic phase in the case of asthmatic children. The following case history is interesting in this respect.

In 1930 I attended a boy, R. B., aged 3 years, the younger of a family of two boys, suffering with laryngismus stridulus. The condition cleared within two days, and he remained well till February, 1932, when he developed a similar but more severe attack, followed by bronchopneumonia. Recovery was slow but progressive. On September 1st, 1932, I approached his parents with a view to further investigation. I examined him, and found him to be apparently in a good state of health, but a differential leucocyte count showed an eosinophilia of 9 per cent. In view of this and of his past history I ventured to label him as a potential asthmatic. All went well until March, 1934, when he developed acute bronchitis, with a 2 per cent. eosinophilia during the pyrexial stage. Within a week the symptoms subsided, while the eosinophils rose to 10 per cent. During April, 1934, he was sent from another source to the local anti-tuberculosis clinic for investigation, but the findings were negative. I saw him next on August 16th, 1934, and on this occasion he was suffering from his first attack of typical asthma. Since then he has had numerous attacks.

Such a history is not isolated, but illustrates a pathological sequence common amongst asthmatic children in their pre-asthmatic years. There is abundant evidence of increased sickness incidence during the early years of

ordinary school life, and this is particularly applicable to the allergic child, who often develops the classical phenomena of asthma during this period. In view of the excellent results obtained from the open-air school line of treatment in established cases, it would appear to me justifiable to segregate by school age children suspected of potential asthma, and give them the benefit of an environment and routine control that does offer some hope of success as a preventive measure.—I am, etc.,

Birmingham, Nov. 3rd. A. W. DOCKAR.

Obituary

DAVID WOOD INGLIS, M.D.

The death of Dr. D. W. Inglis, which occurred on November 2nd, will leave a great void in professional circles on Tyneside, for he was not only a very well known and highly respected practitioner, but a worthy representative of that scholarly type of doctor so often the product of the Scottish universities in the old days. As a young man he went up to Edinburgh from his home near Biggar in Lanarkshire to take an Arts course with the intention of going in for the teaching profession. To that end he took his M.A. in 1876, and had it not been for the influence of a fellow lodger, who was himself a medical student, he might never have thought of medicine as a vocation. It was the large numbers of medical students and the consequent lack of clinical opportunities in the Edinburgh of those days that made him select Glasgow for his medical studies. There he took his M.B. and C.M. with high commendation, and later his Doctorate. He afterwards held house appointments in the Western Infirmary, and for a time was an assistant surgeon to the dispensary for diseases of the skin. About fifty years ago he went to Tyneside, and had lived and worked in Hebburn and district ever since. About three years ago Dr. Inglis retired from active practice, but he kept on his appointment as factory surgeon, largely because of the interest which he found in keeping in touch with men with whom he had worked amicably for so many years. As a J.P. he was most assiduous, and attended the courts regularly.

Although an excellent practitioner, most helpful and considerate, his real interest was in the humanities, and all his spare time was devoted to the study of literature. He was not only a good classical scholar, but was also very fond of German, which he read fluently. Years ago he had travelled abroad a good deal, but more recently nearly all his holidays were spent in the Island of Skye, and up till about two years ago he regularly did some climbing among his beloved Coolins. Dr. Inglis died in his eighty-first year, after an operation for a fulminating type of appendicitis: he was only laid up for a few days, and up to the onset of this fatal illness he was active in every way. His was a character whose influence in the higher things of life seemed to permeate all around. A delightful habit of conciliation made him welcome everywhere, while a consistent equanimity and a never-failing sense of humour were helpful in many trials. He had been a member of the British Medical Association for twenty-seven years.

He will be sadly missed by a large circle of friends, and by none more than his fellow-members of the "Sphalma."

A correspondent writes:

The death of my old friend Dr. David Inglis of Hebburn-on-Tyne, only a fortnight after spending a week-end with him in Scotland, should not be allowed to pass without paying some slight tribute to his memory. We went away twice a year, in spring and autumn, and he has motored with me for the past seven or eight years. One saw David Inglis at his best when he was taking a country walk of sixteen to twenty miles, and when one heard him discussing all things: his knowledge was encyclopaedic, but he had a particularly intimate liking for the plants and animals that one sees in a tramp of miles. His interest extended to geology, and he knew a great deal about the characteristics of the Lowlands. Anything antiquarian appealed to him—from an inscription in Dryburgh Abbey from Horace's Odes, "*Amara lento tempora risci,*" to the church of Samuel Rutherford at Anworth. All the places we recently saw together—the castle of the Maclellans in Kirkcudbright, Dundrennan Abbey, Sweetheart Abbey, and Lanercost Abbey—he knew by frequent visits, and he showed off their features with enthusiasm. Perhaps his greatest interest, however, was in place names. He had a working knowledge of Gaelic, and knew enough of the languages of the Norwegians and Danes to place their occupancy in this country. To hear him speak on the local names of places he visited showed what a grip he had of his favourite subject. Inglis was a mountaineer fifty years ago, and a keen member of the Alpine Club. For thirty years he had gone to Skye, climbed the Coolins, and fished from his favourite hotel; and he knew every stream and tree in the district. To hear him talk of his mountaineering experiences was a treat, for he shone as a conversationalist. Alas that such men should die with their abundant knowledge and philosophy of life. He was a good companion to the last. J. H.

Dr. WILLIAM HEWSON MOOK died suddenly, from pneumonia and cardiac failure, on November 3rd, at the age of 56. He was assistant professor of dermatology, St. Louis, Mo., and the author of many papers on dermatological subjects. Dr. Mook came to France in 1917 with the American Expeditionary Force, and was first attached to the R.A.M.C., among whose members he made many friends. Subsequently he was appointed chief dermatologist to the American Army in France.

Dr. THOMAS ALEXANDER BROWN, who died at his home in Rhos-on-Sea on November 8th, was a well-known practitioner in the Midlands. He practised in Birmingham for many years and later at Sutton Coldfield. Born in Dunfermline in 1860, he belonged to a family of doctors: he had three brothers who were doctors, one of them his twin. After some years of working with Duncan, Flockhart and Co., Dr. Brown studied medicine at Edinburgh University, and graduated M.B., C.M. in 1884; he also took the M.R.C.S., L.R.C.P. immediately afterwards. He was for a year senior demonstrator of anatomy at Surgeons' Hall, Edinburgh, and, after being an assistant to a Keswick doctor, he settled down at Small Heath, Birmingham, where he quickly developed a very large practice. He subsequently practised at Sutton Coldfield, until his health gave way, when he retired to live at Rhos-on-Sea, North Wales. Although for some years past an almost helpless cripple, he never grumbled, but preserved to the very last his happy, cheerful disposition. His loss will be mourned by a vast number of patients and friends. He is survived by his wife and a son and daughter, the son practising as a doctor at Rhos-on-Sea.

We regret to announce the death in Liverpool, on November 1st, of Dr. GEORGE GILBERT FLEMYNG, of 37, Maresfield Gardens, N.W.3, late surgeon of the s.s. *Homeric*, White Star Line. Dr. Flemyng, who was 65 years of age at his death, received his medical education at Dublin, where he graduated B.A., T.C.D., in 1891, proceeding M.D. in 1894, the same year in which he took the M.B., B.Ch., B.A.O. He was appointed to the Australian service in April, 1903, and resigned two years later. In 1908, after leaving the *Persic*, he entered the New York service, and subsequently worked on a number of these liners. From 1919 to 1921 he was on the *Baltic*, and continued on the transatlantic service until 1931, being appointed to the *Homeric* in 1927. On the death of his wife in 1931 he resigned.

Universities and Colleges

UNIVERSITY OF OXFORD

Brian Gilmore Macgraith, M.B., B.S., B.Sc., of Adelaide University and Magdalen College, has been elected to the Staines Medical Fellowship at Exeter College.

UNIVERSITY OF LONDON

Dr. A. M. H. Gray has been elected Dean of the Faculty of Medicine for 1934–6.

A meeting of the Court, held on November 7th, with the Deputy-Chairman (Mr. Loney) presiding, was informed that the Essex County Council had decided to make a grant of £33,000, payable over ten years, towards the erection of new buildings in Bloomsbury. The Court has conveyed its most cordial thanks to the Essex County Council and Education Committee for their munificent gift. The Court accepted with gratification a donation from the Worshipful Company of Tallow Chandlers towards the ceremonial hall to be built on the Bloomsbury site. The thanks of the Court were conveyed to the Middlesex Education Committee for grants towards university extension courses and tutorial classes.

The title of the University Chair of Obstetric Medicine tenable at University College Hospital Medical School has been changed to "University Chair of Obstetrics and Gynaecology tenable at University College Hospital Medical School."

Dr. Sophia Jevons has been nominated for appointment as Governor of the Strand School.

The following appointments have been made: Dr. Amy M. Fleming to the University Chair of Obstetrics and Gynaecology tenable at the London School of Medicine for Women as from October 1st, and Professor George Grey Turner to the University Chair of Surgery tenable at the British Post-Graduate Medical School as from October 1st or such later date as may be found practicable.

Brown Institution Lectures

The Brown Institution Lectures for 1934, entitled "Primitive Forms of Life," will be delivered by Dr. F. W. Twort, F.R.S., professor of bacteriology in the University and superintendent of the Brown Institution, at the London School of Hygiene and Tropical Medicine on December 10th, 12th, 14th, 17th, and 19th, at 5 p.m. Admission free, without ticket.

The University Medal in Branch I (Medicine) at the M.D. examination for internal and external students, July, 1934, has been awarded to Dr. Leslie George Norman (University College Hospital), and the University Medal in Branch I (Surgery) at the M.S. examination for internal and external students, July, 1934, to Mr. David Trevor (St. Bartholomew's and Charing Cross Hospitals).

UNIVERSITY OF LIVERPOOL

The Council of the University of Liverpool has conferred the title of Professor Emeritus upon Dr. J. M. Beattie, formerly professor of bacteriology, and upon Dr. John Hay, formerly professor of medicine.

UNIVERSITY OF GLASGOW

At the graduation ceremony held on November 3rd the following degrees were conferred:

D.Sc.—N. Morris, M.D.
M.D. (with commendation).—H. B. W. Morgan.

BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a special meeting of the council, held on November 5th, the Honorary Fellowship was conferred on Emeritus Professor Archibald Donald (Alderley Edge) and Sir William Josiah Smyly (Dublin).

Dr. W. F. T. Haultain (Edinburgh) was admitted to the Fellowship of the College, and the following were admitted to membership: Frederick Arthur Clift (London), David William Currie (Leeds), Morgan David Arwyn Evans (Cardiff), William Dawson Galloway (Holmfirth), Lionel George Higgins (Woking), Russell Norfolk Howard (Melbourne), Robert James Kellar (Edinburgh), John Harold Peel (London), Jack Polonsky (Capetown and Liverpool), Arthur Lloyd Potter (Wigan), John Lelean Scholes (Melbourne), Percy Norman Leonard Seager (Dublin), Thomas Francis Todd (Preston), Charles Henry Walsh (Liverpool), Charles Alexander Whitfield (Tidworth), Bryan Williams (Birkenhead), James Smith Young (Kilmarnock).

The following were admitted, *in absentia*, to the Foundation Fellowship: F. Brown Craig (Sydney), Benjamin Philp Watson (New York); to the Foundation Membership: William Allan Dafoe (Toronto); and to Membership: John Nicholas Chesterman (Sydney), Thomas Frederick Corkill (Wellington, N.Z.), Frieda Ruth Heighway (Sydney), Nora Proctor Sims (Baluchistan).

ROYAL COLLEGE OF SURGEONS OF ENGLAND

An ordinary Council meeting was held on November 8th, when the President, Sir Holburt Waring, was in the chair.

The President reported the award of Mackenzie Mackinnon Research Fellowships to E. G. L. Bywaters and L. C. Bousfield, both Members of the College, for a research into rheumatoid arthritis, to be carried out in the Middlesex Hospital Medical School.

Diplomas of Membership were granted to A. H. Khan, S. H. Awad, and 123 other candidates whose names were published in our issue of November 3rd (p. 838) in the report of the proceedings of the Comitia of the Royal College of Physicians of London, as were the names of the eight candidates to whom the Diploma in Public Health has been granted, and the name of the candidate who has received the Diploma in Gynaecology and Obstetrics.

The Buckston Browne Dinner

The seventh annual Buckston Browne Dinner of Fellows and Members was held in the library of the College on November 8th, with the President, Sir Holburt Waring, in the chair. In the course of a general welcome to the guests the President said that the dinner had been founded by Sir Buckston Browne to promote good fellowship among the various diplomates of the College. He then gave an account of the activities of the College during the past year, and emphasized particularly the surgical research in progress in the laboratories in Lincoln's Inn Fields and at the Buckston Browne Farm at Downe, enumerating the various researches being carried out by scholars and others. He also referred to the Prophit Trust for cancer research, in connexion with which the College has set on foot two parallel researches—the radium beam therapy at the Radium Institute and the mass radiation with deep *x* rays at the Mount Vernon Hospital. Turning to education, Sir Holburt said that the examinations for the Membership and other diplomas had been carried on as usual, and that primary examinations were being conducted over-seas this winter by examiners sent out from England to Australia, New Zealand, and India, large numbers of candidates having entered in each case. In the College itself a great loss was caused by the retirement of Mr. S. Forrest Cowell, who during a period of thirty-three years as secretary had missed only one meeting of the Council. Mr. Henry George, the articulator, had also retired, and carried with him the good wishes of the many examiners and examination candidates with whom he had come into contact. Finally, the President referred to the progress of the Royal Australasian College of Surgeons, whose new building in Melbourne he, as President of this College, was formally to open next March. Under the circumstances it was appropriate that he could couple with the toast of "The Guests" the name of the Right Hon. S. M. Bruce, High Commissioner for Australia. The High Commissioner for Australia expressed thanks to the College on behalf not only of the guests present, but also of Australia, and particularly of the Australasian College of Surgeons, for the presentation of a replica of the mace of this College, for the holding of examinations over-seas, and for the coming visit of the President to Australia to open the new College. The interest shown by actions such as these was of the utmost value in the encouragement of surgery over-seas. In proposing the health of the donor the President spoke not only of the dinner, but also of the Surgical Research Farm at Downe which Sir Buckston Browne had endowed. The farm buildings were now nearly complete, and could provide accommodation for almost any animal required by research workers, except perhaps the elephant. Sir Buckston Browne replied in suitable terms, and expressed his thanks to all the officials who had helped to make the dinner a successful institution. After dinner the guests went round the museum, where special exhibitions had been arranged under the direction of Dr. John Beattie, its conservator and director of research.

The following is a complete list of those present:

Council.—Sir Holburt Waring (President), Mr. Wilfred Trotter and Mr. A. H. Burgess (Vice-Presidents), Mr. Ernest W. Hey Groves (Bristol), Sir Cuthbert Wallace, Mr. F. J. Steward, Mr. C. H. Fagge, Mr. W. Sampson Handley, Mr. G. E. Gask, Mr. Victor Bonney, Mr. G. Grey Turner (Newcastle-on-Tyne), Mr. Hugh Lett, Mr. Leonard Gamgee (Birmingham), Mr. R. G. Hogarth (Nottingham), Mr. R. E. Kelly (Liverpool, Mr. Graham Simpson (Sheffield), Mr. A. James Walton, Mr. A. E. Webb-Johnson, Mr.

R. C. Elmslie, Mr. L. R. Braithwaite (Leeds), Mr. H. S. Souttar, and Mr. W. Girling Ball.

Fellows.—Mr. F. H. Bentley, Mr. A. M. Boyd, Sir Buckston Browne, Mr. D. A. Davies (Deal), Mr. W. D. Doherty, Mr. E. Laming Evans, Mr. E. R. Flint (Leeds), Mr. Thomas C. Graves (Birmingham), Mr. R. Vaughan Hudson, Mr. J. A. James (Bristol), Mr. C. Naunton Morgan, Mr. Cyril A. R. Nitch, Mr. C. A. Pannett (Richmond), Professor Miles H. Phillips (Sheffield), Mr. L. Carnac Rivett, Mr. Charles Roberts (Manchester), Professor Leyland Robinson (Liverpool), Mr. W. G. Rose (Derby), Mr. Cecil Rowntree, Mr. W. R. Spurrell (Tadworth), Mr. R. M. Vick, Mr. Cecil P. G. Wakeley, Mr. Norman L. White, and Dr. R. Salisbury Woods (Cambridge).

Members.—Dr. G. P. Anning (Leeds), Mr. R. E. Apperly, Dr. K. J. Aveling (Bushey), Dr. Roland Brinton, Dr. H. Allen Bulman, Dr. Ronald Burn (Richmond), Mr. C. E. Clay (Dewsbury), Dr. W. S. C. Copeman, Dr. T. B. Davie (Liverpool), Dr. Max E. Delafield, Dr. H. E. Dyson, Mr. John L. Farquharson (Weston-super-Mare), Dr. N. S. Finzi, Dr. T. F. Fox, Dr. V. B. Green-Armytage, Dr. Charles Hadfield, Surgeon Vice-Admiral R. W. B. Hall, Mr. J. D. Hay (Liverpool), Mr. C. Bowdler Henry, Dr. Stuart Hensman, Dr. R. A. Hickling, Dr. A. B. Howitt, M.P., Dr. Bernard Johnson, Mr. Murray P. Jones (Ashford), Mr. H. C. Lees (Darwen), Dr. D. C. Muir (Hull), Mr. B. Rait-Smith (Redhill), Dr. F. H. Robbins, Mr. H. D. Rollinson (Coventry), Mr. G. W. Ross (Toronto), Dr. R. A. Rowlands, Dr. W. Sirr Sheldon, Dr. T. H. G. Shore (Plymouth), Dr. D. B. Smallshaw (Epsom), Dr. J. Forest Smith, Dr. W. B. Stanford, Dr. H. J. Starling (Norwich), Dr. Denison Stilwell (Beckenham), Dr. R. Tilbury, Dr. H. T. M. Townsend-Whitling (Market Harborough), Mr. F. B. Winfield (Birmingham), Mr. W. L. René Wood (Ossett), and Professor Samson Wright.

Others Present.—The Right Hon. S. M. Bruce (High Commissioner for Australia), Sir Robert Bolam, Dr. Mervyn Gordon, Dr. John Beattie (Conservator), Mr. Kennedy Cassels (Secretary), and Mr. T. D. McCown.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A quarterly meeting of the College was held on November 6th, when the president, Dr. Edwin Bramwell, was in the chair. Dr. J. R. Currie (Glasgow), Dr. A. G. Cruikshank (Edinburgh), and Dr. Douglas A. Miller (Edinburgh) were introduced and took their seats as Fellows. Dr. J. A. D. Iverach (Dunedin, N.Z.), Dr. J. Burnett King (Edinburgh), Dr. J. Alastair Bruce (Edinburgh), Dr. D. K. Henderson (Edinburgh), and Dr. R. F. Ogilvie (Edinburgh) were elected Fellows.

The Hill Pattison-Struthers Bursary in Anatomy and Physiology was awarded to A. T. R. Hamilton.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

At the annual meeting of the Royal Faculty of Physicians and Surgeons of Glasgow, held on November 5th, the following officers were elected:

President, Dr. J. M. Munro Kerr. *Visitor*, Mr. Archibald Young. *Honorary Treasurer*, Mr. James H. MacDonald. *Honorary Librarian*, Mr. W. R. Snodgrass.

Medical Notes in Parliament

[From our Parliamentary Correspondent]

The Poor Law Bill was read a third time by the House of Commons on November 9th. Sir Francis Fremantle expressed satisfaction at the exemption of maternity benefit from calculations of the means of applicants for public assistance. He hoped it was the forerunner of further measures next session respecting health and maternity benefits. On November 13th the Poor Law Bill was read a second time in the Lords.

On November 9th the House of Commons approved Additional Import Duties Orders, including Order No. 28, regarding importations of medical and surgical instruments. Dr. Burgin said the Order increased the import duty on these from 10 to 20 per cent. There was a very large industry in the United Kingdom, the factories of which were equipped with most modern plant. Public bodies and voluntary hospitals used almost entirely British instruments, and there was also a very considerable export trade in British-made instruments. The British preference was not to have a surgical instrument standardized and made by mass production at a low price, but a hand-forged instrument produced here. The committee therefore recommended that there should be a 20 per cent. duty upon these surgical instruments.

The Parliamentary Medical Committee invited Dr. Addison to dine with them on November 14th to mark his re-election to the House of Commons.

The Betting and Lotteries Bill, which had already passed the House of Lords, was read a third time in the House of Commons on November 13th, and was due to receive the Royal Assent, with other measures, before the prorogation of Parliament on November 16th. On November 14th the House of Commons discussed the reports made by the Government Commissioners to the necessitous areas of Scotland, Cumberland, Tyneside, Durham, and South Wales. These reports contained references to the physical condition of the unemployed and their families in these districts.

Anti-noise Committee

On November 13th Mr. Hore-Belisha informed Mr. Anstruther Gray that the terms of reference of the Anti-noise Committee were limited to noises arising from the operation of mechanically propelled vehicles. Examination of the problem of deafness caused by pneumatic drills was not included.

Replying to Mr. Touche, Mr. Hore-Belisha said that the Ministry of Transport had for some time been in touch with the Society of Motor Manufacturers with a view to preventing the manufacture of motor cars with inadequate or ineffective silencers. The society had also accepted an invitation to appoint a representative to serve on the committee which he had recently appointed to consider the steps that might be taken to reduce noise arising from the use of motor vehicles.

No Christmas Draws for Hospitals

During the consideration of the Betting and Lotteries Bill on the report stage in the House of Commons on November 12th, Sir W. Wayland moved a new clause providing that a Christmas draw promoted in a city, borough, or district to raise money for a local hospital should not be deemed to be an unlawful lottery provided that not more than one such lottery was promoted for the benefit of any one hospital in any year; no ticket was sold earlier than the month of November; no tickets were sold outside the city, borough, or district in which the hospital was situated; and no tickets were sent through the post. The clause also provided that after the purchase of prizes and payment of expenses the proceeds should be applied solely for the benefit of the local hospital, the name of which was printed on the ticket; the prizes should not be money prizes; accounts should be audited by a qualified accountant; and permission to hold the draw should be first obtained from the mayor of the city or borough or chairman of the district council. Sir W. Wayland explained that a draw held in a large works employing from 5,000 to 10,000 men would be legal under the Bill, but a Christmas draw on behalf of a hospital, whether small or large, for the sole benefit of that hospital, would be illegal. Vice-Admiral Taylor, in seconding the clause, said that it would be a severe blow to many small hospitals if these Christmas draws were to be made illegal.

Mr. Rhys Davies opposed the clause. He said that in some districts the working men paid a weekly contribution of 1d. or 2d., and in some cases up to 6d. If the clause were adopted it would destroy that practice altogether. The working men would probably drop the weekly contribution, and take a sixpenny ticket once a year. Captain Heilgers said that while it was true the big hospitals did not want these schemes, especially in London, because they had a national appeal to which the whole country responded, the poor hospitals could not raise money in that way.

Captain Crookshank, on behalf of the Government, said that it would be practically impossible to limit the sale of tickets of a lottery, authorized by a mayor of a city, to the city itself, and to ensure that no tickets were sold earlier than November. The great mass of the hospitals did not want money to be raised by lotteries. The British Hospitals Association passed a resolution at Eastbourne on June 2nd,

1931, declaring that it was "not in favour of an amendment of the law affecting public sweepstakes the purpose being for the benefit of voluntary hospitals." A great many hospitals realized that a large number of their willing subscribers would say to them, "Why ask me for a subscription? Why not have a lottery?" There would be no answer to that question.

The clause was rejected by 155 votes to 81.

Maternal Mortality.—Mr. SHAKESPEARE told Mr. Boothby, on November 7th, that a list of areas exhibiting a persistently high rate of maternal mortality was included by the Chief Medical Officer of the Ministry in his report for 1933. Of 125 maternity and child welfare authorities which functioned within the areas in question all but three provided milk or food for expectant and nursing mothers, and in one of these areas any necessary supply was provided by a voluntary society. The attention of all maternity and child welfare authorities had been drawn to the importance of this provision. Answering a similar question from Miss Cazalet, on November 8th, Sir HILTON YOUNG said it was intended to make a detailed review of the maternity services in each area of persistently high maternal mortality to determine what action was needed to render the services both effective and comprehensive. For this review he proposed to instruct expert medical officers to visit the areas concerned.

Medical Officer for Maternity and Child Welfare.—Mr. RHYS DAVIES, on November 8th, challenged the wisdom of the decision not to fill the vacancy caused by the resignation of the Ministry of Health medical officer for maternity and child welfare. Sir HILTON YOUNG replied that the Local Government Act of 1929 imposed more largely on local authorities the determination of their local administration of maternity and child welfare work. Consequently its supervision by his Department had been substantially changed in character and degree. He had decided, therefore, that on the retirement of the senior medical officer in charge of this work its supervision could best be entrusted for the future not to two higher posts, but to one. This post was held by a most experienced woman medical officer, who was directly responsible to the Chief Medical Officer of the Ministry. There was no ground for misgiving on the present arrangements for effective performance of this branch of the Ministry's work.

Dupuytren's Contraction.—Sir JOHN GILMOUR told Mr. Tinker, on November 8th, that the question of giving workmen's compensation for Dupuytren's contraction was fully inquired into in 1913 by the Committee on Compensation for Industrial Diseases, which took evidence from the Miners' Federation and others. The committee found that there was no established connexion between this condition and the workmen's employment which would justify its being scheduled. Since then no evidence had come to his notice to suggest that this conclusion ought to be reconsidered. He was prepared to consider any fresh evidence. Mr. Tinker suggested that in coal mining a large number of men were unable to follow their employment through Dupuytren's contraction, their fingers contracting into the palm of the hand.

Birth Control Clinics.—Replying to Sir Arnold Wilson, on November 8th, Sir HILTON YOUNG said, so far as was known in his Department, clinics at which advice on contraceptive methods was given subject to the limitations laid down in Ministry of Health circulars on the matter had been provided by thirty-two local authorities in England and Wales. A number of other authorities had made arrangements with the same object otherwise than by the provision of clinics.

Milk Supply to Schools.—Mr. RAMSBOTHAM told Mr. Hall Caine, on November 8th, that it was not possible to give statistical information on the operation of the scheme for the supply of milk at reduced rates in schools in England and Wales. He did not think that there had been any difficulty in getting milk approved by the medical officers, in the rural areas particularly. The Board of Education had not made it a requirement that pasteurized milk must be supplied to the exclusion of all other types, though where the supply of sufficient pasteurized milk was available this should be supplied. Medical opinion was strongly in favour of supplying pasteurized milk where possible. On November 12th Mr. RAMSBOTHAM informed Mr. J. Duncan that the initial stages of the milk-in-schools scheme had given rise to a number of questions which it was hoped would be satisfactorily settled at an early date. The President of the Board of Education understood that, as the result of a special inquiry made by the local education authority for London shortly after the scheme came into force, it was found that about 364,000 children in that area were then receiving milk under voluntary schemes, and about 26,900 children through the local education authority's arrangements under the Education Act—a total of 390,000. Before the introduction of the scheme the corresponding figures were, approximately, 100,000 and 25,000 children, a total of 125,000. The scheme had met with an encouraging reception, and there was a general large increase in the number of children receiving milk in schools.

Dental Benefit.—Sir HILTON YOUNG told Sir Arnold Wilson, on November 8th, that the Dental Benefit Joint Committee, a voluntary non-statutory body, ceased to exist on December 31st, 1928. Subject to his general control, the arrangements for the provision of dental benefit were in the hands of a statutory body known as the Dental Benefit Council, set up in accordance with Regulations made under Section 16 of the National Health Insurance Act, 1928. These Regulations contained provisions for the administration of the benefit, including the scale of fees and conditions of service, and replaced the *Dental Benefit Handbook*, which would not be reissued.

Maternity and Child Welfare in Monmouthshire.—On November 12th Sir HILTON YOUNG informed Mr. Denman that his attention had been called to the report of the county medical officer for Monmouthshire, for 1932, which stated that the county council had ordered that the maternity and child welfare estimates should be reduced by the annual figure of £3,260; that in the following year, 1933–4, a further saving of £637 was required; and that it was necessary, therefore, to revise the scheme for the provision of milk for necessitous mothers and infants. The county council gave an assurance that the reductions referred to would not prevent the continued supply of milk to those mothers who required it on grounds of health, but he was making further inquiry into the position.

Deaths Following Anaesthesia.—On November 12th Sir HILTON YOUNG, replying to Captain Erskine-Bolst, said that the available records did not enable deaths attributable to anaesthesia to be distinguished from those occurring during anaesthesia, though not attributable thereto. For the six months ending March 31st last the deaths classified as attributable to, or having occurred during, anaesthesia included the following, in which avertin was used: three, avertin alone; one, avertin in conjunction with oxygen and nitrous oxide; one, avertin in conjunction with "gas, oxygen, and ether."

Pollution of River Tame.—Mr. SHAKESPEARE, replying to Mr. Mander on November 13th, said that the sources of the pollution of the River Tame in its passage through Willenhall had been difficult to trace, but he was informed that it appeared to arise from old culverts and impregnated subsoil. Active steps were being taken to abate the pollution, but from its nature complete abatement would take some time.

Notes in Brief

Sir Hilton Young states that the numbers of persons in Great Britain who, on December 31st, 1933, were insured for health and pensions purposes respectively were approximately 18,481,000 and 18,793,000. The number of insured persons who were under the age of 20 on December 31st, 1931, was approximately 2,500,000.

Mr. Shakespeare states that out of the £1,000,000 grant to assist rural water supply schemes £302,000 has been allocated for schemes of an estimated capital cost of £2,100,000.

Medical News

The Minister of Health, Sir Hilton Young, will be the principal guest at the annual dinner of the Society of Medical Officers of Health, to be held at the May Fair Hotel on Thursday, November 22nd, at 7.10 for 7.30 p.m. Dr. R. Veitch Clark, the president of the society, will be in the chair. Tickets are obtainable (12s. 6d.) from the Executive Secretary, 1, Upper Montague Street, Russell Square, London, W.C.1.

A meeting of the Royal Microscopical Society will be held at B.M.A. House, Tavistock Square, London, W.C., on Wednesday, November 21st, at 5.30 p.m., when papers will be read by Mr. J. E. Barnard, F.R.S., Mr. F. V. Welch, and Mr. John Smiles.

Sir Malcolm Watson will deliver the Finlayson Memorial Lecture, on "Some Pages from the History of the Prevention of Malaria," in the Faculty Hall, 242, St. Vincent Street, Glasgow, on Monday, November 19th, at 4 p.m. Fellows of the Faculty and medical practitioners are invited to attend.

The annual general meeting of the British Health Resorts Association will be held at 28, Portland Place, W., on Thursday, November 22nd, at 3.30 p.m., when the chairman of the council, Lieut.-Colonel R. H. Elliot, will preside.

The ninety-second half-yearly dinner of the Aberdeen University Club, London, will be held at the Trocadero Restaurant at 7.30 p.m. on Thursday, November 22nd, under the chairmanship of G. A. Morrison, Esq., LL.D., M.P. The secretary's address is 16, Tregunter Road, S.W.10.

The Master of the Society of Apothecaries of London (Sir George Buchanan) and the senior and junior Wardens (Sir William Willcox and Dr. J. S. Fairbairn) have issued invitations to a reception at Apothecaries' Hall on the evening of Friday, November 23rd, to meet members of the Society of Medical Officers of Health.

The annual clinical "At Home" of the Royal Dental Hospital of London will be held at the hospital (32, Leicester Square, W.C.) on Saturday, November 24th, at 2 p.m. The dinner of past and present students will take place at 7.30 p.m. at the Trocadero, with Mr. J. Thornton Carter in the chair.

The British Science Guild announces that the Norman Lockyer Lecture, 1934, will be given on Wednesday, November 28th, at 4.30 p.m., by Professor J. B. S. Haldane, F.R.S., in the Goldsmiths' Hall, Foster Lane, E.C. His subject will be "Human Biology and its Applications." Tickets, for which there is no charge, are obtainable from the secretary, 6, John Street, Adelphi, W.C.

The next quarterly meeting of the Royal Medico-Psychological Association will be held at 11, Chandos Street, W., on Tuesday, November 20th, at 2.30 p.m., when there will be a discussion on Section 5 of the Mental Treatment Act, to be opened by Sir Hubert Bond.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W., on Thursday, November 22nd, at 8.30 p.m., when a paper will be read by Dr. Horace Shelley entitled "Observations on some Medico-Legal Experiences in Nyasaland." A discussion will follow.

A general meeting of the Society of Medical Officers of Health will be held at 1, Upper Montague Street, W.C., on Friday, November 23rd, at 5 p.m., when there will be a discussion on "The Organization of the Domiciliary Medical Service," to be opened by Dr. J. A. Charles.

In celebration of the jubilee of the first operation for the removal of a cerebral tumour—performed by Sir Rickman Godlee at the Hospital for Epilepsy and Paralysis on November 25th, 1884—Mr. Wilfred Trotter will read a paper entitled "A Landmark in Neurology," in the Robert Barnes Hall, at 1, Wimpole Street, on Tuesday, November 27th, at 5 o'clock. At 7.30 p.m. a commemorative dinner will be held at the Dorchester Hotel, with Lord Horder in the chair. The last day on which applications for tickets can be received is Monday, November 19th. They should be addressed to the secretary, Hospital for Epilepsy and Paralysis, Maida Vale, W.9.

The annual Benjamin Ward Richardson Memorial Lecture, arranged by the Model Abattoir Society, will be given on November 27th, at 5.30 p.m., at the Royal Sanitary Institute, Buckingham Palace Road, by Sir Leonard Hill. The society was founded in 1882, and its persistence in advocating the three objects of promoting merciful treatment of animals, advancing the health of the population, and obtaining economic management of slaughterhouses is being rewarded by their inclusion in proposals lately promulgated by the Ministry of Agriculture. Yet there remain many points regarding methods of painless killing that need careful study. The title of Sir Leonard Hill's lecture is "Electric Methods of Producing Humane Slaughter." Sir James Crichton-Browne will preside. Admission free, without ticket.

A course in infants' diseases, specially arranged for medical officers of welfare centres and others interested in nutritional disorders and dietetics, will be given at the Infants Hospital, Vincent Square, Westminster, from November 26th to December 7th. The fee is £3 3s. The names of qualified practitioners wishing to attend the course (number limited to fifteen) should be sent to the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1, by November 23rd. Cheques should be made payable to the Fellowship. Further courses at the Infants Hospital will be given as follows: April 1st to 13th; September 2nd to 14th; and November 25th to December 7th, 1935.

The Royal Northern Hospital Dining Club will meet at the Café Royal, Regent Street, W., on Friday, November 23rd, at 8.30 p.m. The president, Mr. M. Coleman, will be in the chair, and Lord Horder will be the guest of the club. Tickets, price 10s. 6d., can be obtained from the honorary secretary, Dr. H. A. Cowan, 32, Fitzroy Square, W.1.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that lecture-demonstrations will be given at 11, Chandos Street, W., on November 20th and 27th, at 2.30 p.m.; also on Wednesdays, at 8.30 p.m., in the series on diet and dietetics. Special courses of instruction until the end of the year will be as follows: proctology at St. Mark's Hospital, November 19th to 24th, all day; rheumatism at the British Red Cross Clinic, Tuesdays and Thursdays at 8.30 p.m., November 20th to December 6th; infants' diseases at the Infants Hospital, November 26th to December 8th, afternoons; dermatology at the Blackfriars Skin Hospital, November 26th to December 8th, afternoons; chest diseases (M.R.C.P.) at the Brompton Hospital, Wednesdays and Fridays at 5 p.m., December 12th to January 11th, 1935 (excluding Christmas week). Courses, lectures, etc., arranged by the Fellowship are open only to members and associates.

The issue of *La Medicina Ibera* for October 20th contains a biographical sketch of the late Professor Ramón y Cajal, together with a full-page portrait and a facsimile of his writing a few hours before death.

The November issue of *Tubercle* contains a translation, by Dr. Salvatore Lojacono, of Forlanini's original paper on artificial pneumothorax, which appeared in the *Gazzetta degli Ospedali* in August, 1882.

At the recent congress of the American College of Surgeons held in Boston, honorary fellowships were conferred on Sir Harold Gillies (London), Professor Josef Halban (Vienna), Mr. Harry Platt (Manchester), and Dr. Bethel Solomons (Dublin).

Dr. Sidney Gilford, J.P., has been elected chairman of the Reading Insurance Committee for the ensuing year.

The King has appointed Dr. J. R. Forde to be a Member of the Executive Council of the Gambia and an Official Member of the Legislative Council of that colony.

An Italian Society of Gastro-enterology has been founded at Milan with the Senator Micheli of Turin as president.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

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The **TELEGRAPHIC ADDRESSES** are:

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

White and Brown Sugar

"A. F. S." (Co. Mayo) writes: I have found that many persons who suffer from flatulent dyspepsia, as a consequence of indulging in sweets or ordinary white sugar, can eat with impunity soft brown sugar. I should be obliged if someone would say what is the difference between the two chemically, and also if the more harmless form can be obtained from beet.

Treatment of Ménière's Disease

Dr. ARNOLD S. FERGUSON (Jersey) writes: If it is a case of true Ménière's disease, and not a Ménière symptom-complex, the Zund-Burguet offers great prospects. I have a case now of a farmer sent to me by Dr. Nicolson with true Ménière. After a fortnight's treatment the vertigo has disappeared, and the patient can now climb and prune a tree. I drew attention to this treatment in the *British Medical Journal* of September 10th, 1927 (p. 454). Why not the simple treatment first?

Dr. T. WILSON PARRY (London, N.8) writes: I should be glad to let "Inquirer" have reprints relating to treatment in the above-mentioned "complex of symptoms," which I trust he may find helpful. They include: (1) the case of a hospital nurse (aged 41) who had suffered for five years with typically distressing and prostrating vertiginous attacks. She had been under seven of the best London specialists without obtaining more than temporary relief, but was dramatically cured by the insertion of a seton which was kept *in situ* for six months (vide *Journal*, May 11th, 1907); and (2) the case of a solicitor's clerk (aged 44) who had become prematurely old after suffering for eight years from frequent attacks of the syndrome, which made it impossible for him to follow his profession. He was treated by hypnotic suggestion; and after one treatment, which lasted one and a half minutes (timed), never had another severe attack. This case was followed up by me (*Med. Press*, May 3rd and May 10th, 1905), and two years later (ibid., March 27th, 1907) the patient replied to a letter I had written him telling me that he had had no severe attack since the treatment.

Treatment of Trichophyton Infection

Dr. JAMES HASSON (London, W.2) writes: I feel I must intervene in the discussion on the treatment of trichophyton, and give the result of my experiences. I see about four to five cases weekly of epidermophytosis, and all the classical treatments carried out were a failure in my hands. Most physicians overlook the fact that the disease nests on the nails, and if one treats the palms of the hands and soles of the feet only the disease certainly relapses. The best method is the carboltuchsine paint, to which I add 2.5 per cent. of salicylic acid. Rub the nails thoroughly with the paint twice daily, even after the disease seems to have subsided. Three months' treatment is, in my opinion, a fair period for a rapid cure.

Income Tax

Cessation of Employment

"T. S." ceased to act as an assistant on November 30th, 1933, and was then unemployed until he recently started a new practice. The inspector of taxes claims to revise the assessments for 1932-3 and 1933-4 to put them on the current year's basis. Is this correct?

*** Yes. The point is governed by Section 45 (5) of the Finance Act, 1927, which provides that where a person ceases to hold an office or employment the last and penultimate years shall be adjusted to the current year's basis. The penultimate year is at the option of the Revenue—that is, the reverse of the position as regards the second complete year in the case of a person *commencing* to hold an office or employment.

LETTERS, NOTES, ETC.

Post-anaesthetic Coma

Dr. RACHEL IRWIN (Irish Mission Hospital, Kirin, Manchukuo) writes: A girl, aged 16, was admitted to hospital for excision of tuberculous cervical glands. The left side glands were excised under ether anaesthesia. Gwathmey's method of ether and oil per rectum was used (ether 4 oz., olive oil 1½ oz., with preliminary hypodermic injection of morphine 1/6 grain). Perfect anaesthesia was maintained for over an hour. The patient vomited while the bowel was being washed out, and was fully conscious about four hours later. She made an uninterrupted recovery. Twenty days later the glands on the right side were excised. Exactly the same method of anaesthesia was followed, but the return to consciousness was delayed for about six hours. At the end of that period the patient was conscious for about half an hour, and then relapsed into a comatose state. There was twitching of the arms and periodic attacks of violent restlessness. Pupils dilated, corneal reflex absent. Pulse full and regular. Respiration slow and regular, cheeks blown out. The temperature rose to 104°. Spinal fluid was not under pressure. Systolic blood pressure 110. Repeated irrigation of the bowel revealed no trace of ether, though the breath still smelt of ether twenty-four hours after operation. Glucose and saline were given intravenously and per rectum. After remaining in this condition for fifty-two hours the patient recovered consciousness. There were no further complications.

Routes Out of London

The second edition of the A.A. London Route Map, which is now available (free) to members of the Automobile Association, contains two new features which enhance its value. Colour printing makes the map much easier to read and marginal extensions of the main roads out of London indicate the important centres they serve. With a scale of one inch to the mile the map covers an area twenty miles square between Southgate, Purley, Hounslow, and Barking. Heavy lines indicate the principal exits; and important landmarks, such as war memorials, churches, public buildings, inns, and level crossings, are given in heavy type. Golf courses and county boundaries, new roads under construction and projected, tram-lines, and Ministry of Transport road numbers are clearly marked. Where a choice of routes to the same terminus is shown in the marginal extensions places on the recommended route from Hyde Park Corner are underlined. A footnote gives details of traffic regulations for Waterloo Bridge during the period of reconstruction.

We have received from the Evans Biological Institute, Runcorn, a copy of their brochure entitled *Medical Products of Precision*. An index of therapeutic products offered is classified in relation to the various conditions for which treatment may be required. A full description of each product is given. The booklet is eighty pages in length.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 52, 53, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54 and 55.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *260*.